ANGELES LINK PHASE 1

NITROGEN OXIDES (NOx) AND OTHER AIR EMISSIONS ASSESSMENT

FINAL REPORT – DECEMBER 2024

SoCalGas commissioned this NOx and Other Air Emissions Assessment from Stantec Consulting Services Inc. The analysis was conducted, and this report was prepared, collaboratively.

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Acronyms and Abbreviations

AB	Assembly Bill
APCD	Air Pollution Control District
AQMD	Air Quality Management District
AR6	IPCC Sixth Assessment Report
BEV	Battery Electric Vehicle
CAAP	Clean Air Action Plan
CARB	California Air Resources Board
CBOSG	Community Based Stakeholder Organization Group
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	Methane
CHE	Cargo Handling Equipment
CHC	Commercial Habor Craft
CO_2	Carbon Dioxide
CO_2e	Carbon dioxide equivalent
CPUC	California Public Utilities Commission
DOE	Department of Energy
DPM	Diesel Particulate Matter
EF	Emission Factor

EDF	Environmental Defense Fund
EMFAC	CARB Emission Factor Model
EO	Executive Order
EPRI	Electric Power Research Institute
FARMER	Funding Agricultural Replacement Measures for Emission Reductions
FCEV	Fuel Cell Electric Vehicle
GHG	Greenhouse Gas
GREET	Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation
GSE	Ground Support Equipment
GWP	Global Warming Potential
H_2	Hydrogen
HDV	Heavy-duty vehicle
IPCC	Intergovernmental Panel on Climate Change
Kg	Kilogram
MDV	Medium-duty vehicle
MJ	Megajoules
MMBtu	Million British Thermal Units
MMscf	Million standard cubic feet
MMT/yr	Million Metric Tonnes per Year
NEPA	National Environmental Policy Act
NOx	Oxides of Nitrogen

N_2O	Nitrous Oxide
NETL	National Energy Technology Laboratory
NREL	National Renewable Energy Lab
O_2	Oxygen
OP	Ordering Paragraph
PAG	Planning Advisory Group
PNNL	Pacific Northwest National Laboratory
psi	Pounds per square inch
RNG	Renewable Natural Gas
SB	Senate Bill
SMR	Steam Methane Reforming
South Coast AQMD	South Coast Air Quality Management District
UC	University of California
UCI	University of California Irvine
DOE	Department of Energy
EPA	Environmental Protection Agency
VOC	Volatile Organic Compounds
ZECAP	Zero Emissions for California Ports
ZEV	Zero Emission Vehicle
ZEAT	Zero Emission Advanced Technology

1.0 EXECUTIVE SUMMARY

Southern California Gas Company (SoCalGas) proposes to develop a clean renewable hydrogen[1] pipeline system to facilitate transportation of clean renewable hydrogen from multiple regional third-party production sources and storage sites to various delivery points and end users in Central and Southern California, including in the Los Angeles Basin. The CPUC's Phase 1 Decision, approving the Memorandum Account for SoCalGas's proposed Angeles Link, requires SoCalGas to track costs for conducting the feasibility studies. In the Decision, clean renewable hydrogen refers to hydrogen that does not exceed 4 kilograms of carbon dioxide equivalent (CO2e) on a lifecycle basis per kilogram of hydrogen produced and does not use fossil fuel[2] in the hydrogen production process. The Decision (OP 6 (h)) also requires SoCalGas to assess potential NOx emissions associated with Angeles Link including appropriate controls to minimize and mitigate such emissions.

The purpose of this study is to assess the potential for both NOx emissions increases and reductions associated with Angeles Link, which accounts for emissions from not just transmission of hydrogen, but also from third-party production, third-party storage, and at end users. Specifically, this NOx assessment evaluates potential NOx and other air emissions associated with new hydrogen infrastructure (i.e., third-party production,[3] third-

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[1] In the California Public Utilities Commission (CPUC)'s Angeles Link Phase 1 Decision (D.)22-12-055 (Phase 1 Decision), clean renewable hydrogen refers to hydrogen that does not exceed 4 kilograms of carbon dioxide equivalent (CO2e) produced on a lifecycle basis per kilogram of hydrogen produced and does not use fossil fuels in the hydrogen production process.

[2] Fossil fuel is defined as a mixture of hydrocarbons including coal, petroleum, or natural gas, occurring in and extracted from underground deposits.

[3] The potential NOx emissions associated with water conveyance or transport of biomass or biomass feed preparation related to production of hydrogen were not included in the scope of this study.

party storage, and transmission),[4] as well as potential NOx emissions associated with end users in the mobility, power generation, and hard-to-electrify industrial sectors.[5]

SoCalGas will not be producing clean renewable hydrogen as part of Angeles Link, and it is anticipated that third-party producers would complete thorough environmental review of their projects when proposed pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), as applicable, and that review would evaluate the potential NOx and other air emissions associated with that production.

Although emission calculations include those conducted for hydrogen-natural gas fuel blends, the assumption is that blending would happen by the customer behind the meter. The study also identified minimization opportunities to reduce potential NOx emissions.

Although NOx is the primary focus of this emissions assessment, the study also includes a high-level assessment of other potential emissions, with a focus on volatile organic compounds (VOC) which is a precursor to ozone, and diesel particulate matter (DPM), which is the primary pollutant associated with diesel combustion. The NOx, VOC, and DPM emissions are a result of combustion of fuels and vary based on the type of fuel and equipment.

Projected quantities of displacement of diesel and gasoline by hydrogen fuel cells in the mobility sector, and anticipated replacement of natural gas with hydrogen in the power generation and hard-to-electrify industrial sectors were based on estimated demand values provided by the parallel Phase 1 Demand Study. The Demand Study projected potential economy-wide demand in Central and Southern California using three scenarios: conservative, moderate, and ambitious demand.

In comparison to the overall potential market demand projected in the Demand Study, the projected throughput of Angeles Link to help meet a portion of that total demand, is estimated to range from 0.5 to 1.5 million metric tonnes per year (MMT/yr). The three throughput scenarios for the Angeles Link buildout of low, moderate, and high (0.5 MMT/yr, 1.0 MMT/yr, and 1.5 MMT/yr) align with the conservative, moderate and ambitious Demand Scenarios (1.9 MMT/yr, 3.2 MMT/yr, and 5.9 MMT/yr). To estimate

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[4] The terms “new infrastructure” and “hydrogen infrastructure” refer to general hydrogen infrastructure comprised of third-party production, third-party storage, and transmission. The term “Angeles Link infrastructure” refers to transmission via pipelines including compression.

[5] Mobility, power generation, and hard-to-electrify industrial sectors as defined in the parallel Demand Study. Demand Study projections did not include commercial sector.

the potential NOx emissions associated with the project, including those from not just transmission of hydrogen, but also from third-party production and third-party storage as well as end users, emissions were calculated using the Demand Study data. The ratio of anticipated hydrogen throughput values for Angeles Link to projected values in the Demand Study were then calculated for each of the conservative (26.85%), moderate (31.12%), and ambitious (25.36%) scenarios. These ratios were then applied to the NOx and other pollutants estimated emissions using the Demand Study scenarios to determine NOx and other pollutants estimates associated with Angeles Link Throughput Scenarios. This analysis is shown in Table 1 below.

Table 1
NOx Reduction Estimates for Demand Study Scenarios Applied to Projected Angeles Link Throughput Scenarios

Demand Scenario	Total Projected Hydrogen Demand (MMT/yr)	Overall NOx Reductions for Demand in 2045 (tpy)	Angeles Link Projected Hydrogen Throughput (MMT/yr)	Overall NOx Reductions Based on Angeles Link Throughput in 2045 (tpy)
Low	1.9	13,847	0.5	3,793
Moderate	3.2	17,179	1	5,347
High	5.9	20,529	1.5	5,206

Key Findings

- In 2030, the Ambitious Demand Scenario estimates approximately 5,240 ton/year NOx reductions as shown in Table 20, associated with the displacement of fossil fuels by hydrogen for end-users minus emissions from infrastructure associated with third-party production, third-party storage, and transmission of hydrogen. Based on throughput values for Angeles Link, the High Throughput Scenario estimates that Angeles Link could supply 25.36% of the overall hydrogen demand projected by the Demand Study. Therefore, overall NO_x emissions reductions associated with the Angeles Link High Throughput Scenario in 2030 are estimated at 1,329 tons per year as shown in Table 14. This value of 1,329 tons of NOx per year is the same as 23%

of the NOx reductions South Coast Air Quality Management District (South Coast AQMD) has proposed to be achieved by 2037 for total stationary commercial and large combustion source NOx control measures in their 2022 Air Quality Management Plan (AQMP).[6]

- In 2045, the Ambitious Demand Scenario estimates NOx emissions reductions of 20,529 tons/year (as shown in Table 11) associated with the displacement of fossil fuels by hydrogen for end-users minus emissions from new infrastructure associated with the third-party production, third-party storage, and transmission of hydrogen demand. Based on throughput values for Angeles Link, the High Throughput Scenario estimates that Angeles Link could supply 25.36% of the overall hydrogen demand. Therefore, overall NO_x emissions reductions associated with the Angeles Link High Throughput Scenario in 2045 are estimated at 5,206 tons per year. This value of 5,206 tons of NOx per year is the same as 90% of the NOx reductions South Coast AQMD has proposed to be achieved by 2037 for total stationary commercial and large combustion source NOx control measures in their 2022 AQMP.[7]

- Of the three end-user sectors, the mobility sector makes up the bulk of the NO_x emissions reductions (over 99% in the ambitious Demand Scenario). This parallels the 2018 emissions inventory used by South Coast AQMD in their 2022 AQMP which shows that 85% of emissions in the South Coast AQMD are from mobile sources and 15% are from stationary sources. Mobility NOx emissions (e.g., primarily heavy-duty transportation) are expected to be reduced with the conversion to zero emission vehicles (ZEVs). Options for ZEVs include hydrogen fuel cell electric vehicles (FCEVs) and battery electric vehicles (BEVs). The Demand Study projected the anticipated fossil fuel displacement associated with FCEVs only. The associated NOx reductions were estimated only for conversion to FCEVs; this study does not project emission reductions related to fossil fuel displacement that will be associated with BEVs. Since BEVs are not potential end users of Angeles Link, analysis related to BEVs is beyond the scope of this NOx Study. Please see the Alternatives Study for discussion related to direct electrification and BEVs. The study assumes that hydrogen is utilized in fuel cells in the mobility sector, and in combustion units for stationary applications within power generation and hard to electrify Industrial sectors. The use of hydrogen in fuel

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[6] South Coast AQMD, 2022a, 2022 Air Quality Management Plan, Appendix IV-A, Stationary and Mobile Source Control Measures, appendix-iv-a.pdf
[7] South Coast AQMD, 2022a, Ibid.

cells produces zero NO_x emissions, while the combustion of hydrogen does have the potential to form NO_x emissions.

- A relatively small reduction in NO_x emissions is expected from combusting hydrogen as compared to pure natural gas. The difference in NO_x emissions from the combustion of hydrogen fuel compared to fossil fuels is attributable to differences between NOx emission factors for hydrogen fuel as compared to NOx emission factors for natural gas. Current research into the scientific literature supports the potential for a reduction in NO_x emissions when transitioning from the combustion of fossil fuels to hydrogen fuels as 1) hydrogen has the potential to combust at a wider range of air to fuel ratios and lower temperatures than fossil fuels, 2) there are potentially favorable differences in the thermodynamic efficiency of hydrogen in turbines as compared to natural gas, and 3) certain burner technologies have proven experimentally to emit lower NO_x emissions from hydrogen combustion as compared to natural gas combustion. Since current data and scientific research is still evolving, the Study takes a conservative approach to estimating NOx and other air emissions.

- In the power generation sector, the estimated NO_x reductions associated with market adoption of hydrogen are approximately 0.7 ton/year in 2030 and up to approximately 72 ton/year in 2045 based on the Ambitious Demand Scenario. The bulk of the expected reductions from Power Generation (e.g. over 80%) are attributed to the peaker and baseload sub-sector for all years. Expected emissions reductions associated with Angeles Link in the power generation sector in 2030 are roughly 0.2 tons per year, and in 2045 are roughly 18.2 tons per year based on the Angeles Link High Throughput Scenario.

- In hard to electrify industrial sectors, the estimated NO_x reductions associated with market adoption of hydrogen are 7 ton/year in 2030 and 19 ton/year in 2045 using the Ambitious Demand Scenario. In the Ambitious Demand and High Throughput Scenarios, refineries account for the largest reductions (e.g. 52.2% Ambitious, 2030), followed by Stone, Glass, Cement (18.4% Ambitious, 2030), Food and Beverage (17.4% Ambitious, 2030), and Metals (8.1% Ambitious, 2030). Please note that refineries are only considered in the Ambitious Demand Scenario and refineries comprise about one-quarter of the Demand in this scenario. These percentages are not expected to change much between 2030 and 2045. Expected emissions reductions associated with the Hard to Electrify Industrial sector in 2030 are roughly 1.9 tons per year, and in 2045 are roughly 4.9 tons per year using the Angeles Link High Throughput Scenario.

- In the Mobility sector, the estimated NO_x reductions associated with market adoption of hydrogen are roughly 5,600 ton/year in 2030 and 22,000 ton/year in 2045 using the Ambitious Demand Scenario. The largest percentage of overall NO_x reductions associated with market adoption of hydrogen in the Mobility sector in the Ambitious Demand and High Throughput Scenarios are attributable to heavy-duty vehicles (e.g. 69.1% in 2030 and 77.4% in 2045), followed by buses (exceeded by construction and mining by 2045) (14.2% in 2030 and 5.6% in 2045), construction and mining vehicles(6.8% in 2030 and 6.7% in 2045), and then medium-duty vehicles (6.4% in 2030 and 4.4% in 2045). Three of the top four sub-sectors contributing the greatest magnitude of NO_x emissions reductions are the three on-road sub-sectors. The magnitude of reductions from the collective on-road sub-sectors is much greater than the magnitude of reductions from the collective off-road sub-sectors. The largest variable impacting the magnitude of emissions reductions from on-road versus off-road vehicles is the estimated volume of fossil fuels displaced as projected by the Demand Study. Expected emission reductions associated with the Mobility sector in 2030 are roughly 1,400 tons per year, and in 2045 are roughly 5,660 tons per year, using the Angeles Link High Throughput Scenario.

- Based on currently available information, new infrastructure potential emissions account for a relatively small percentage when compared with end-user emissions reductions. In 2030 the infrastructure NO_x emissions associated with the market adoption of hydrogen are estimated to be approximately 360 tons/year, which accounts for 6% of the total estimated NO_x reductions from end-users associated with the Ambitious hydrogen demand projections (2030) from the Demand Study. In the same scenario for the year 2045, infrastructure NO_x emissions are approximately 1,900 tons/year, which accounts for about 8% of total NO_x reductions from end-users associated with the Ambitious Demand Scenario projections (2045) from the Demand Study. Based on the High Throughput Scenario for Angeles Link, new infrastructure emissions in the maximum emissions scenario for 2030 are estimated at 91 tons per year of NO_x, and for 2045 are estimated at 481 tons per year of NO_x.

- The estimated annual reductions in $PM_{2.5}$ and PM_{10} emissions associated with end-users displacing fossil fuels with hydrogen fuel are approximately 2,339 and 3,539 tons, respectively, for 2045 in the Ambitious Demand Scenario. The South Coast Air Quality Management District (South Coast AQMD) projects annual $PM_{2.5}$ emissions in 2037 to be approximately 60.08 tons/day, PM_{10} to be 173.63 tons/day, and total PM to be 298.51 tons/day. This yields $PM_{2.5}$ emissions of 21,929 tons and PM_{10} emissions of 63,375 tons for the year 2037. Therefore, the estimated annual average reductions in $PM_{2.5}$ and PM_{10} emissions in the South Coast AQMD for the market adoption of hydrogen are potentially up to 11% and 6%, respectively. The total reductions in $PM_{2.5}$ and PM_{10} emissions associated with the Angeles Link High Throughput Scenario in 2045 are about 593 and 898 tons per year, respectively. These values are about 3% and 1% of projected 2037 $PM_{2.5}$ and PM_{10} emissions in the South Coast AQMD, respectively.

- Hydrogen is a non-carbon containing fuel that eliminates diesel particulate matter (DPM) when replacing diesel fuel. Studies indicate that hydrogen fuel substitution of non-diesel fossil fuels almost entirely reduces PM emissions in spark-ignited engines and turbines. DPM reductions from the displacement of diesel fuel with hydrogen fuel in the Ambitious Demand Scenario are estimated to be approximately 656 tons per year by 2045.

- Hydrogen usage is not known to produce direct VOC emissions and VOC may be eliminated by replacing fossil fuels with hydrogen fuel. A reduction in VOC emissions associated with end-users displacing fossil fuels with hydrogen fuel as projected by the Demand Study was estimated at approximately 4,595 tons by 2045 in the Ambitious Demand Scenario. The South Coast AQMD projects their annual VOC emissions in 2037 to be 120,335 tons.[8] Therefore, the annual average reductions in VOC emissions estimated by the market adoption of hydrogen are about 3.8% of the VOC emissions in the South Coast AQMD region. The estimated reductions in VOC emissions associated with the Angeles Link High Throughput Scenario are about 1,165 tons per year in 2045.

Emissions Minimization Opportunities: Opportunities to minimize NOx emissions or measures to reduce NOx emissions can be implemented to reduce NOx emissions, including with equipment design, control of combustion temperature, and application of existing and emerging aftertreatment technologies. Existing technologies include selective catalytic reduction (SCR), selective non-catalytic reduction (SNCR), and non-selective catalytic reduction (NSCR), while emerging technologies include electron beam irradiation and electrochemical reduction.

Stakeholder Feedback

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[8] South Coast AQMD, 2022b, 2022 Air Quality Management Plan Appendix III Base and Future Year Emission Inventory, Adopted December 2, https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-iii.pdf?sfvrsn=6

The input and feedback from stakeholders including the Planning Advisory Group (PAG) and Community Based Organization Stakeholder Group (CBOSG) has been helpful to the development of this NOx and other Air Emissions Assessment Study Report. For example, in response to stakeholder comments, maps have been prepared that depict the anticipated NOx emissions reductions geographically and are included in Appendix C. Additionally, the study includes a review of relevant literature provided by stakeholders, as applicable. The feedback that has been received to-date related to this Study and how those comments are addressed is summarized in more detail in Section 12.

About the Research

Understanding the Draft Study

Study Purpose

- Estimate NOx emissions associated with Angeles Link infrastructure, as well as third-party production and third-party storage. Assess projected NOx emission reductions from displacing fossil fuels with hydrogen in various end user sectors.

Scope

- Focus on NOx emissions from hydrogen infrastructure and reductions from fossil fuel displacement.
- Includes examination of opportunities to mitigate and minimize NOx emissions.

Key Assumptions

- Use of renewable electricity for hydrogen production to minimize NOx emissions from the energy supply side.
- Anticipation of technological efficiencies and market adoption rates to project air quality benefits.

Limitations

- Acknowledges the feasibility study nature, indicating the potential for ongoing refinement of data and conclusions.

Informed by Research

- Research from academic institutions (UCI, Georgia Tech) and private organizations (EPRI, EDF).
- Regulatory frameworks from federal (US EPA, US DOE), state (CARB, CEC), and local agencies (e.g., South Coast AQMD).
- Developments in hydrogen technology from manufacturers and technical data from government entities (US DOE, NREL).

Understanding the Impact of Angeles Link

Identifying End-Users for Angeles Link

Mobility Sector

- Heavy-Duty Trucks, Medium-Duty Vehicles, Buses, Agriculture, Construction & Mining Equipment, Cargo Handling Equipment, Ground Support Equipment, Commercial Harbor Craft.

Power Generation Sector

- Turbines and Co-generation.

Hard-to-Electrify Industries

- Chemical Manufacturing, Metal Refining and Treatment, Stone/Glass/Cement, Food & Beverage, Paper & Pulp, Aerospace, Refineries.

Methodology

Clean Renewable Hydrogen refers to hydrogen that does not exceed 4 kilograms of CO2 produced on a lifecycle basis per kilogram of hydrogen produced and does not use fossil fuel in the hydrogen production process where fossil fuel is defined as extracted from underground deposits.

Evaluated Emissions Change for Demand Scenarios and Angeles Link Throughput Scenarios (Low, Mid, High)

Fuel Throughput x Emissions Factor = Emissions

Emission Reductions = Fossil Fuel Emissions – Hydrogen Emissions

Third-Party Production

- Electrolysis
- Biomass gasification
- RNG Steam methane reforming

Third-Party Storage and Transmission

- Electric driven compressors
- Hydrogen fueled compressors

Industrial and Power

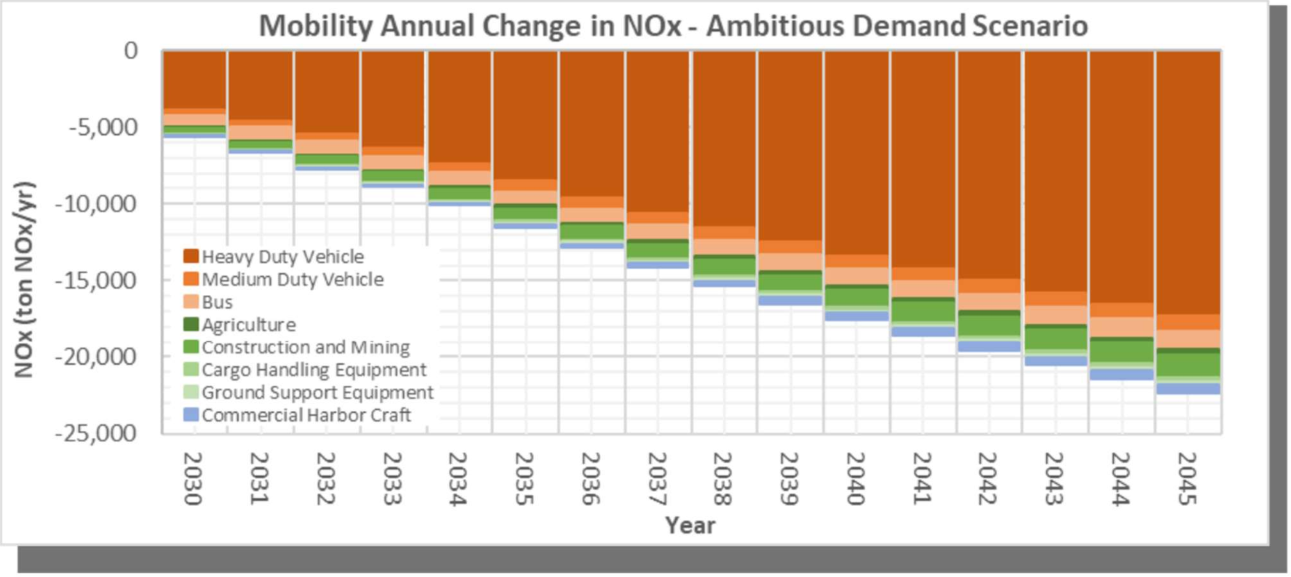
- Natural gas displacement

Mobility

- Diesel and gasoline displacement

NOx Results for Demand Scenarios by End-Use Sectors

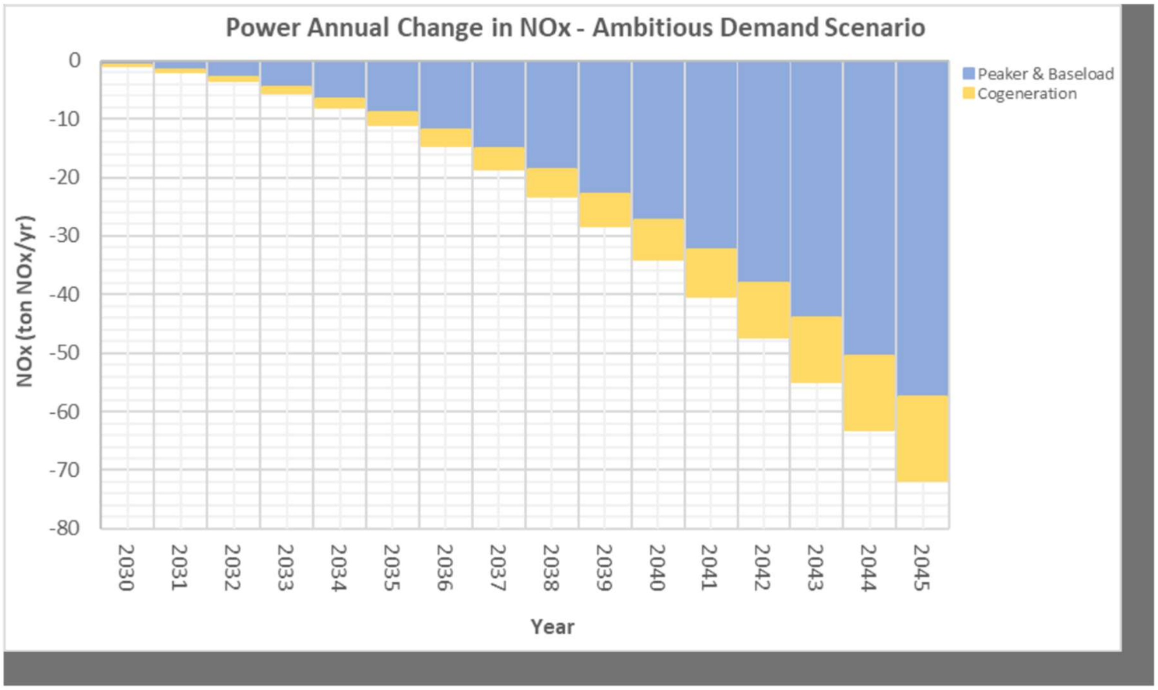
End User Annual Reductions in NOx Emissions, based on High Demand Scenario, 2030-2045 (ton NOx/year)



Mobility Sector

- **2030: 5,600 tons/year reductions**
- **2045: 22,000 tons/year reductions**

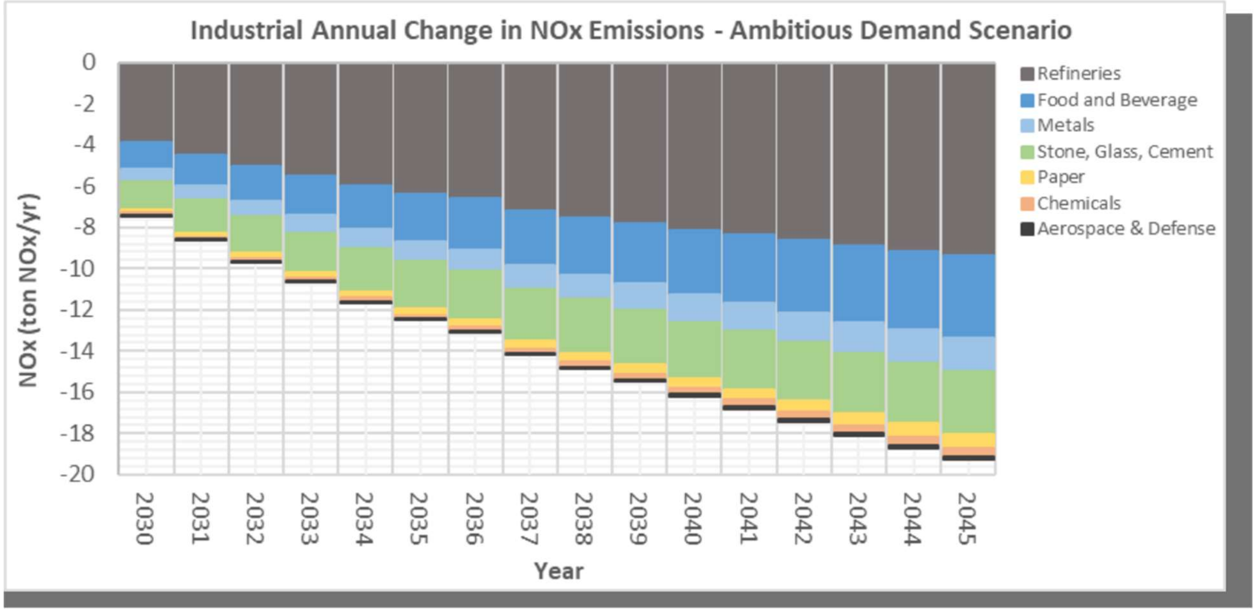
The Mobility sector comprises over 99% of end-user reductions.



Power Generation Sector

- **2030: 0.7 ton/year reductions**
- **2045: 72 tons/year reductions**

Suggests efficiency improvements in peaker and baseload power sub-sectors.



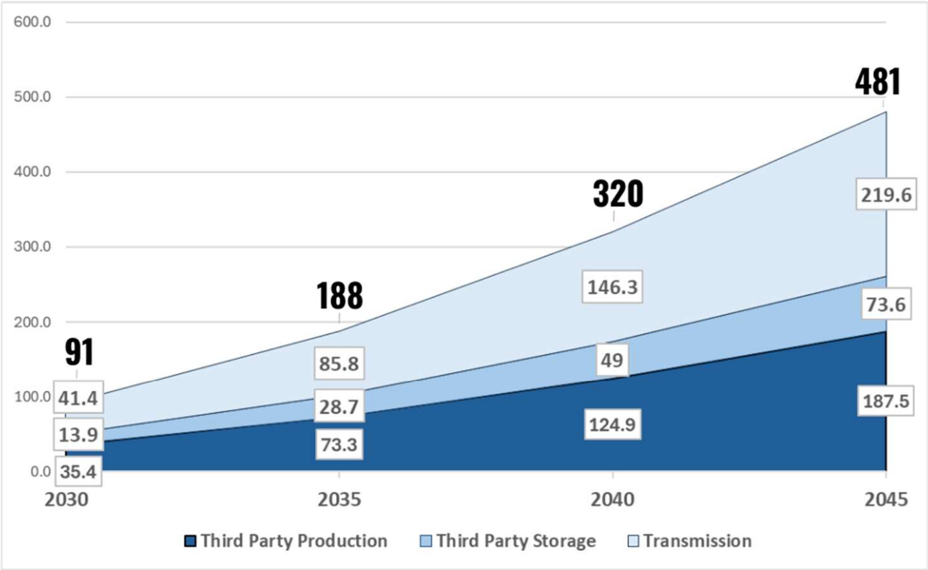
Hard to Electrify Industrial Sector

- **2030: 7.4 tons/year reductions**
- **2045: 19.3 tons/year reductions**

Main contributions from refineries, food & beverage, and stone/glass/cement sectors.

Evaluating the Air Quality Impact of Angeles Link

NOx Results for Angeles Link Infrastructure, as well as Third-Party Production, Third-Party Storage and Transmission (tons per year)



NOx Emissions from Transmission

The NOx emissions are based on an assumed transmission distance of 450 miles using hydrogen. For compressors using renewable electricity, the NOx emissions are zero. For compressors using hydrogen, there are some NOx emissions.

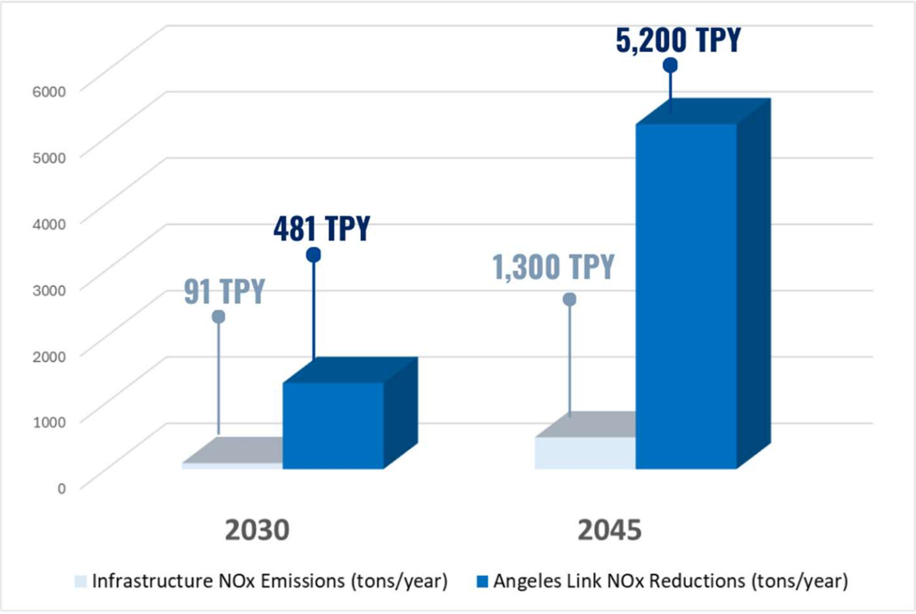
NOx Emissions from Third-Party Production

The values for NOx emissions represent 100% RNG SMR. In contrast, the emissions for 100% Electrolysis or Biomass Gasification are zero.

NOx Emissions from Third-Party Storage

The NOx emissions values represent third-party storage at 2,900 psi using an H2 reciprocating engine. For compressors using renewable electricity, the NOx emissions are zero. For compressors using hydrogen, there are some NOx emissions.

Comparing NOx Emissions vs Reductions for Angeles Link: 2030 & 2045



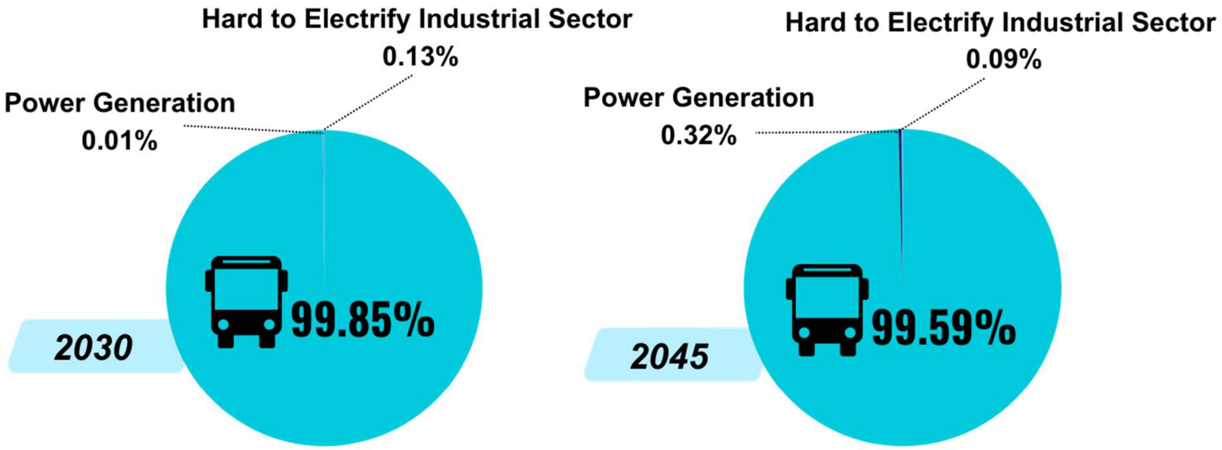
Estimated NOx Infrastructure Emissions vs. Expected NOx End User Reductions for Angeles Link (2030 & 2045)

The chart emphasizes that the NOx reductions achieved by the Angeles Link project far exceed the emissions generated by the infrastructure itself, particularly by 2045.

Note: The depicted values include estimated NOx from third-party production and third-party storage.

NOx Emissions and Reductions for Angeles Link: 2030 & 2045

End User Sectors’ NOx Reductions in High Throughput Scenario



Notes: Assumptions for the Mobility sector are based on the projected hydrogen demand that would displace diesel and gasoline fuel for vehicles that are projected to convert FCEVs with zero NOx emissions*. Emission factors for NOx from displaced diesel and gasoline fuel were developed using EMFAC data.*

Mobility Sector

- **2030: 1,400/year**
- **2045: 5,660 tons/year**

Power Generation Sector

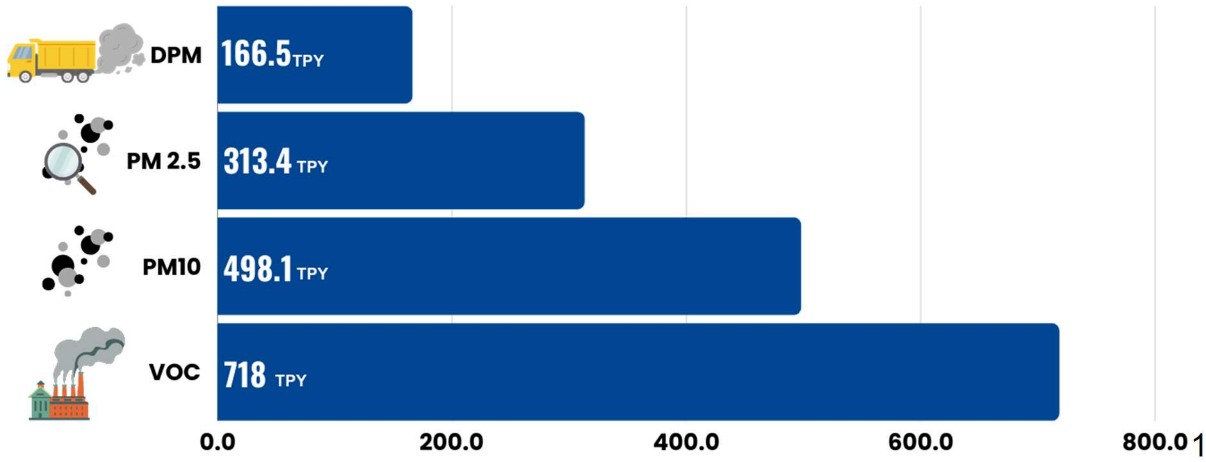
- **2030: 0.2 tons/year**
- **2045: 18.2 tons/year**

Hard to Electrify Industrial Sector

- **2030: 1.9 tons/year**
- **2045: 4.9 tons/year**

Emission Reductions for Other Emissions: 2045

Angeles Link Specific Emissions Reductions in High Throughput Scenario, 2045 (tons/year)



2.0 STUDY APPROACH

The study estimates NOx emissions associated with anticipated third -party production, third-party storage, and transmission of hydrogen and estimates NOx emission reductions from end users of hydrogen in the mobility, power generation, and hard to electrify industrial sectors, to determine anticipated overall NOx reductions. Additionally, potential NOx emissions minimization opportunities are identified to further reduce NOx emissions. The parallel Angeles Link Phase 1 Demand Study provides details and scenario options needed to complete this study. Evaluation of NOx emissions for the estimated ranges of Angeles Link throughput of 0.5 to 1.5 MMT per year of hydrogen was also conducted.

Where applicable, the study relies on specific technical information available from regulatory agencies, transportation agencies, and equipment manufacturers. Research conducted by entities, such as academic institutions was evaluated to determine best available methods for quantifying emissions of NOx from the combustion of hydrogen. EPA calculation methodologies were also used to estimate NOx emission factors for hydrogen. Relevant local air district requirements regarding NOx emission limitations for combustion units were considered. When specific information was not available, estimates were made based on the availability of related data and assumptions, which are explained within the relevant sections of the study. The study also includes a high-level assessment of other potential emissions with a focus on PM and VOC.

2.1 TECHNICAL RESEARCH

The study collected, reviewed, and analyzed technical research studies and information related to NOx emissions associated with hydrogen combustion. This analysis included:

- Available literature and studies from research-based academic institutions such as University of California Irvine (UCI) Combustion Laboratory and Georgia Institute of Technology and private organizations such as Electric Power Research Institute (EPRI).
- Existing, proposed, and potential future regulatory requirements from federal agencies including Environmental Protection Agency (EPA), Department of Energy (DOE), state agencies such as California Air Resources Board (CARB) and California Energy Commission (CEC), and local agencies including the nine local

air districts located within the geographic scope of this study such as South Coast AQMD and San Joaquin Valley Air Pollution Control District (APCD).

- Technological developments and timelines from manufacturers working on hydrogen technology.
- Technical literature and data releases from government agencies and laboratories including the DOE, the National Renewable Energy Lab (NREL), and the National Energy Technology Laboratory (NETL).
- Potential NOx emissions minimization opportunities from technological advancements.

The study researched available literature and studies to evaluate:

- How NOx is formed from hydrogen combustion.
- How NOx might be controlled when combusting hydrogen.
- How to quantify the formation of NOx from hydrogen combustion.

Preliminary information reviewed regarding the formation of NOx indicated:

- NOx may be formed via three pathways during combustion: thermal NOx, fuel NOx, and prompt NOx.
- Information regarding the formation of NOx was reviewed from publications by EPA and other regulatory agencies, academia, and research institutions.
- Control of NOx emissions from hydrogen combustion begins with designing equipment to account for unique properties of hydrogen, as outlined in available studies and reports, including government publications by EPA and DOE.
- Aftertreatment technologies such as selective catalytic reduction provide demonstrated NOx minimization opportunities.

3.0 TECHNICAL APPROACH

The following assessment process (Figure 1) was used for this study's technical approach. The approach was based on review of technical research studies, research of anticipated technological advancements, and review of expected evolution of regulatory frameworks.

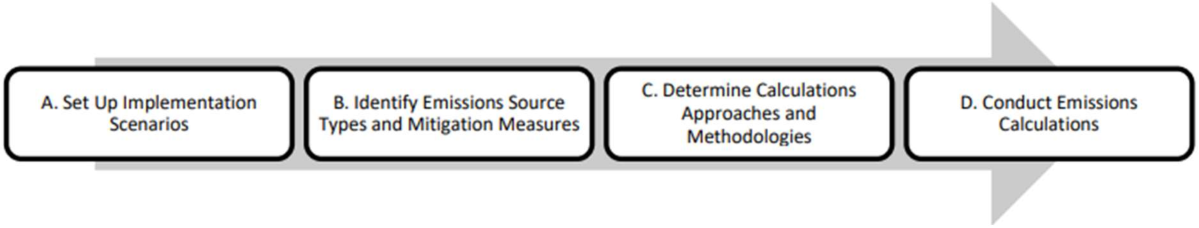


Figure 1: NOx Emissions Assessment Process for Angeles Link

3.1 SET UP IMPLEMENTATION SCENARIOS

Scenarios were set up to evaluate potential NOx emissions from new hydrogen infrastructure and NOx reductions from end users in the 2030 to 2045 timeframe. End use sectors are anticipated to achieve the ability to accommodate 100% hydrogen fuel use at various times due to availability of technology and feasibility of transitioning existing equipment to hydrogen use and building of new hydrogen infrastructure. Use of clean renewable hydrogen as fuel for each end-use sector was evaluated beginning with 2030. Potential NOx emissions were calculated using approaches described herein.

3.2 IDENTIFY EMISSIONS SOURCE TYPES

The study evaluated NOx and other emissions by developing emission calculation approaches and methodologies associated with the following:

- Infrastructure (third-party production, third-party storage, and transmission)
- End Users (mobility, power generation, and hard to electrify industrial sectors)

NOx emissions are a result of combustion of fuel. NOx is created from the conversion of nitrogen in fuel and ambient air at elevated temperatures. Evaluation of NOx emissions minimization opportunities focused on technologies that minimize combustion temperatures and post-combustion NOx emission control technology, such as catalytic reduction. The Phase 1 studies do not estimate emissions associated with construction, rather this analysis will occur during the CEQA/NEPA process.

The pie chart figure below demonstrates the sources of NOx emissions in the state of California, and the percentages arising for various industries, as developed by CARB. Sectors shown in Figure 2 that were not included in the Demand Study, and therefore not evaluated in the NOx Study, include light-duty vehicles, aircraft, locomotives, and areawide sources. Since the Demand Study did not include projections for the commercial or residential end use sectors, the NOx Study does not include associated NOx emission estimates.

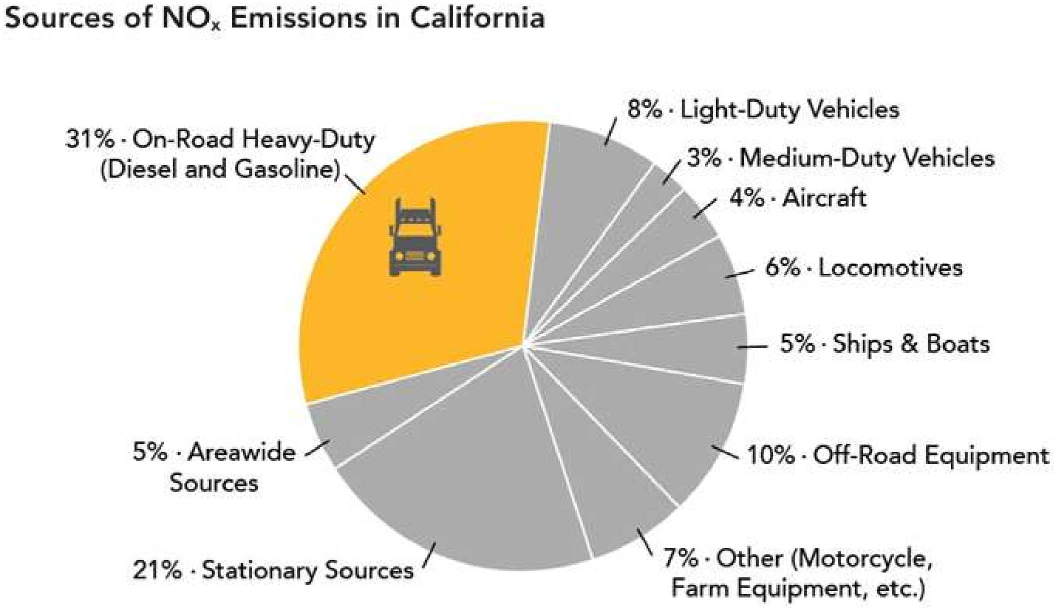


Figure 2: Existing Sources of NOx Emissions in California[9]

3.2.1 Hydrogen Production (Third-party)

Three potential clean renewable hydrogen production options were evaluated. Each of these three options qualifies as producing clean renewable hydrogen (i.e. less than 4

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[9] CARB, 2020, Facts about the Low NOx Heavy-Duty Omnibus Regulation.

kilograms of CO_2e produced on a lifecycle basis per kilogram of hydrogen produced and excluding fossil fuels)[10].

1) Electrolyzers[11] powered by renewable electricity to split water molecules into oxygen and hydrogen. This process does not use combustion so there is no potential for NOx emissions associated with electrolyzers.
2) Biomass gasification[12] is a process that involves heat, steam, and oxygen to convert biomass to hydrogen without combustion. Since this process does not use combustion, there is no potential for NOx emissions associated with biomass gasification.[13]
3) Renewable natural gas (RNG)[14] fueled steam methane reformers (SMR). Steam methane reforming is a process in which biogas (RNG) reacts with steam in the presence of a catalyst to produce hydrogen and carbon dioxide. This option has NOx emissions and those potential emissions were evaluated.

3.2.2 Hydrogen Storage (Third-Party) and Transmission

For the purpose of this study, third-party hydrogen storage may occur aboveground or underground, and hydrogen is delivered to end users via pipelines. Storage and transmission of hydrogen requires the use of compressors. It was assumed that compressors will be driven by renewable electricity powered electric motors or

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[10] Fossil fuels defined as a mixture of hydrocarbons including coal, petroleum, or natural gas, occurring in and extracted from underground deposits.

[11] Office of Energy Efficiency & Renewable Energy, 2024a, Hydrogen Production: Electrolysis, https://www.energy.gov/eere/fuelcells/hydrogen-production-electrolysis

[12] Office of Energy Efficiency & Renewable Energy, 2024b, Hydrogen Production: Biomass Gasification, https://www.energy.gov/eere/fuelcells/hydrogen-production-biomass-gasification

[13] The evaluation of NOx emissions associated with transportation of materials such as biomass to production sites or biomass feed preparation are not included in this Study as these details are beyond the scope of the Phase 1 feasibility studies. The Study assumed that biomass would be procured ready for combustion and removal of moisture would not be required on-site. Third parties will ultimately produce clean renewable hydrogen that meets the needs and project specifications of those particular entities. In the event that production of hydrogen does not meet the CPUC requirements, the hydrogen could not be transported by Angeles Link.

[14] EPA, 2024a, Renewable Natural Gas, agency website https://www.epa.gov/lmop/renewable-natural-gas

compressors driven by engines or turbines. For compressors driven by electric motors, there will be no NOx emissions. If compressor drivers are engines or turbines, it was assumed that they will be fueled by 100% clean renewable hydrogen. As a result, reciprocating engines and turbines have the potential to produce NOx.

For the purposes of this study, it was determined that the potential range of storage pressures for compressed gaseous hydrogen is 290 psi to 2,900 psi. A variety of storage options exist both for aboveground storage vessels and suitable geologic formations for belowground storage.

The transport of gases and liquids in pipeline is driven by a pressure gradient along the direction of flow that compensates for the frictional resistance at the pipe wall. When transporting gas through a pipeline, there will be pressure drop over a distance due to the work needed to compensate for frictional losses. This pressure gradient along a length of pipeline causes the gas to flow in a particular direction. Compression is required to maintain adequate pressure. Hydrogen has a higher compressibility factor than natural gas. Therefore, the pressure drop over a distance is lower for hydrogen than it is for natural gas. The reduced pressure drop over a distance may impact compression needs for hydrogen pipeline transportation. Hydrogen pipeline transportation compression needs may also be impacted by the lower heating value of hydrogen.[15] For this study, it was assumed that 100% of hydrogen demand would be transported via pipeline.

For compressors driven by electric motors, there will be no NOx emissions. However, reciprocating engines and turbines have the potential to produce NOx.

3.2.3 Hydrogen Industrial End Users

Potential NOx emissions source types from end users in three key sectors were evaluated: mobility, power generation, and hard to electrify industrial sectors. Information obtained from the parallel Demand Study informed the analysis of end uses in each of these three sectors, as well as their respective subsectors.

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[15] Yang, M., R. Hunger, S. Berrettoni, B. Sprecher, B. Wang, 2023, A review of hydrogen storage and transport technologies, Clean Energy 7(1): 190–216, https://doi.org/10.1093/ce/zkad021

- **Mobility Sector:** includes heavy-duty trucks, medium-duty vehicles, buses, agriculture, construction & mining, cargo handling equipment, ground support equipment, and commercial harbor craft.
- **Power generation:** turbines are the primary source for potential NOx emissions in power generation.
- **Hard to electrify industrial:** subsectors include energy intensive industries such as refining, food and beverage manufacturing, primary and fabricated metals, stone, glass, and cement, paper, chemical manufacturing, and aerospace & defense.

Source types with the potential for NOx emissions in the power generation and industrial sectors include hot water boilers, steam generating units, process heaters, furnaces/kilns, internal combustion engines, turbines, and miscellaneous combustion equipment.

The period of this study evaluation is from 2030 when Angeles Link would be initiated through 2045 when it would be fully implemented.

3.3 FORMATION OF NO_X

To achieve the goal of quantifying NO_x emissions from the combustion of hydrogen in third-party production, third-party storage, and transmission associated with Angeles Link, and the displacement of fossil fuels by hydrogen usage for end-users, it was important to understand how NO_x is formed.

NOx may be formed through several pathways during combustion, including thermal NO_x, fuel NO_x, and prompt NO_x. Thermal NO_x is formed in the high temperature flame zone near the burner and occurs from the reaction with nitrogen present in ambient air.[16] It is generally assumed that ambient air is 79.1% molecular nitrogen and 20.9% molecular oxygen. The higher the temperature of combustion, the more thermal NO_x emissions will form during combustion when molecular nitrogen is present in the air. Thermal NO_x will start to form rapidly when combustion temperatures exceed 1,850 degrees Kelvin. For a given fuel to air ratio, the temperature of the resulting hydrogen/air flame is higher than that of a natural gas/air flame. This fact is often raised in comments indicating that NO_x

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[16] National Energy Technology Laboratory, 2022, A Literature Review of Hydrogen and Natural Gas Turbines: Current State of the Art with Regard to Performance and NOx Control, White Paper DOE/NETL-2022/3812, August 12, https://www.netl.doe.gov/sites/default/files/publication/A-Literature-Review-of-Hydrogen-and-Natural-Gas-Turbines-081222.pdf

levels are higher for hydrogen compared to natural gas. However, by adjusting the fuel to air ratio (lambda or equivalence ratio), thermal NO_x levels will change according to the fuel to air ratio for a particular fuel and may increase or decrease accordingly. As a result, mitigation of thermal NO_x can be achieved by altering the combusting fuel to air ratio.[17]

Fuel NO_x is formed from the oxidation of the already-ionized nitrogen that may be contained in the fuel. Fuel NO_x will vary based on the nitrogen content of a given fuel and is not relevant when combusting pure hydrogen as no nitrogen is present in the fuel. Prompt NO_x is formed when molecular nitrogen from the air reacts with hydrocarbons in the fuel. This group is then combusted with oxygen from the air to form NOx. Prompt NO_x is not relevant when combusting pure hydrogen fuel as there are no hydrocarbons present in the fuel.[18]

3.4 NO_X EMISSION FACTORS

3.4.1 Combustion of Displaced Fossil Fuels

Pollutant emission factors from the combustion of carbon-based fuels for various types of combustion equipment have been published by numerous sources. The EPA developed and continues to maintain their AP-42: Compilation of Air Emissions Factors from Stationary Sources.[19]

3.4.2 Combustion of Hydrogen

The scientific literature was reviewed to determine if and how NOx emissions are formed when combusting hydrogen, and if any details were available to quantify these NOx emissions. The research completed for this study did not reveal any published hydrogen-specific combustion emission factors. Studies evaluating the formation of NOx from the combustion of hydrogen typically fall into two categories: (1) modeling or (2) direct measurement. It was noted that direct measurements of NOx emissions from practical combustion systems using pure hydrogen are scarce at the present time. Modeling studies have mostly demonstrated that equipment can be designed to minimize the formation of NOx emissions from the combustion of hydrogen, typically by reducing combustion temperature or residence time. Results from direct measurement studies are

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[17] McDonell, V., 2023b, personal communication, December 11

[18] National Energy Technology Laboratory, 2022, Ibid.

[19] EPA, AP-42 Compilation of Air Emissions Factors from Stationary Sources, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors-stationary-sources

variable, and most were completed on equipment that was not originally designed for the unique combustive properties of hydrogen.

Research conducted under this study searched for direct measurement NOx emissions data for pure hydrogen combustion, but very little test data is available, as few types of combustion units can effectively operate on pure 100% hydrogen fuel at this time. The direct measurement NOx emissions data from hydrogen combustion is available for various percentages of hydrogen within various equipment types and operated at a range of conditions and equivalence ratios. It was determined that there were not enough existing direct measurements of NOx emissions from combustion units at various hydrogen percentages and for each of the different equipment and burner types to utilize as representative of hydrogen combustion technology to quantify NOx emissions within this study. Direct measurement is an avenue for improving the estimates of this study, given the potential for this approach to be more accurate, as technology improves, and more consistent test data is available.

True hydrogen emissions factors, which correlate hydrogen fuel combustion to NOx emissions, would likely be the next most accurate NOx calculation method after direct measurement. True hydrogen emissions factors could be published by a government authority such as the EPA or by vendors of hydrogen combustion equipment. True hydrogen emissions factors for NOx were not utilized as the calculation method in this study because published, reputable factors are not yet available.

The method used to quantify NOx emissions from hydrogen combustion in this study was proxy emissions factors. Proxy emissions factors are compatible with the Demand Study, were sufficient to estimate end-user emissions, available for combustion units, and applicable across the entire project geography. Emissions calculations differed between mobility and stationary sources (power generation, hard to electrify industrial, and infrastructure). Mobility using hydrogen fuel cells does not have NOx emissions. Proxy emissions factors for NOx from stationary sources were developed based on regulatory emission limits as described below.

Proxy emissions factors for stationary sources were developed based on the understanding that Southern California is largely an ozone non-attainment area. As a result, regulatory emission limits and BACT/LAER will be the upper bound for future NOx emissions within the project geography. Proxy emissions factors were identified and selected by reviewing emission limits from local air district regulations and formally assessing them based on 1) their ability to encompass a variety of equipment types and sizes 2) their ability to encompass a variety of fuels and 3) their level of “restrictiveness.” More restrictive emissions limits were considered more representative of future requirements anticipated from the local air districts (i.e., requirements for lowering emission limits would get stricter over time). These proxy emissions factors could then be converted to representative hydrogen emissions factors using the correction factor approach. The benefit of this proxy emissions factor approach based on regulatory emission limits is that these factors can be applied to individual equipment to represent the appropriate equipment mix within a given sector. Moreover, the correction factor approach enables these emissions factors to be applied across a full spectrum of fuels ranging from pure hydrogen, hydrogen-natural gas blends (if blended by the end user), and pure natural gas.

3.5 CALCULATION METHODOLOGY

For each type of combustion equipment, potential NOx emissions were estimated for combustion of the displaced fossil fuel (diesel, gasoline, natural gas) and for combustion of clean renewable hydrogen, as applicable. Calculations to estimate emissions were prepared using the following two equations.

Fuel Throughput x Emissions Factor = Emissions (equation 1)

Emission Reductions = Fossil Fuel Emissions – Hydrogen Emissions (equation 2)

The first equation (equation 1) multiplies the fuel throughput of the fossil fuel or of the hydrogen by the respective emission factor to calculate the NOx emissions. The second equation (equation 2) calculates the estimated NOx emission reductions by subtracting the NOx for hydrogen combustion from the NOx for the displaced fossil fuel combustion.

Potential NOx emissions were calculated at the unit level and scaled based on conservative, moderate, and ambitious scenarios in the Demand Study for each year from 2030 to 2045. The study evaluated potential for NOx emissions based on the type of equipment and specific source categories.

Local air district rules were reviewed to determine NOx emission factors for natural gas combustion to estimate emissions associated with the new hydrogen infrastructure, as well as with stationary end user sectors (i.e., power generation and hard to electrify industrial). Then a correction factor was applied to estimate NOx from hydrogen combustion. Volumetric correction factors in units of parts per million by volume (ppmv) can be utilized to convert natural gas emissions factors to equivalent values for pure hydrogen and blended hydrogen-natural gas fuels. After applying this correction factor, NOx in ppmv can be converted to a mass emissions rate using the EPA Method 19 equation.[20] This conversion uses the oxygen correction factor, F-factor, and stoichiometric/unit conversions. Through this approach, a representative emissions factor for natural gas can be converted to an approximate hydrogen or hydrogen-blend emissions factor. These generated emissions factors were compared against manufacturers' test data and specification sheets to verify that they fell within an expected range. This methodology was utilized to develop emissions factors for hydrogen fueled internal and external combustion units for stationary sources. The detailed process to estimate NOx emissions from hydrogen combustion is provided in Appendix A.

Inherent in the preparation of the NOx emissions estimates was the assumption that permitted NOx emission limits would stay the same or decrease given the requirements to make progress towards achieving ozone attainment.[21]

The Study assumes that power generation and hard to electrify industrial end users will continue to comply with applicable Clean Air Act and air districts' permit requirements when transitioning to hydrogen fuel because it has been assumed that the California regulatory environment will not allow for an increase in permitted NOx emissions at stationary sources. It has been observed that innovations in NOx technology has often been catalyzed and driven by the adoption of stringent air quality regulations, and such adoptions, coupled with other factors such as market competition and economies of scale, stimulate advancements and reduce the costs of emission controls as these adoptions becomes more widespread.[22]

For the purposes of this study, it was assumed that adjustments to the hydrogen combustion process such as lowering of combustion temperature[23] and modifying air-to-

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[20] EPA, 2018, EPA Method 19 Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates, https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf

[21] Brouwer, Jack, UCI, Angeles Link Planning Advisory Group meeting, December 15, 2023.

[22] Yeh, Sonia, et. al., Technology Innovations and Experience Curves for Nitrogen Oxides Control Technologies, 2005, Technology innovations and experience curves for nitrogen oxides control technologies (Journal Article) | OSTI.GOV

[23] Alavandi, S.K., et. al., 2007, Experimental Study of Combustion of Hydrogen-Syngas/Methane Fuel Mixtures in a Porous Burner, https://www.sciencedirect.com/science/article/abs/pii/S0360319907007276

fuel ratios,[24] and technological advancements[25] would be in place so permitted NOx emissions would stay the same or decrease with the combustion of hydrogen in equipment in the power generation and hard to electrify industrial sectors. Based upon review of existing technical literature, while there is uncertainty regarding actual measurements of NOx for pure hydrogen combustion applications, actual NOx emissions, which can differ from permitted NOx, may also stay the same or decrease for most end user applications depending on combustion conditions such as temperature and residence time. Advancements in hydrogen combustion technology and post-combustion treatment are anticipated to close the gap between actual NOx emissions associated with natural gas combustion and hydrogen combustion once hydrogen specific design considerations are more broadly applied.

3.5.1 Infrastructure

Hydrogen may be produced by electrolysis using renewable electricity, biomass gasification (non-combustion process), or SMR using external combustion sources fueled by pure hydrogen and renewable natural gas as feedstock. New compressors will be needed for the storage and transportation of pure hydrogen. These compressors may be driven by electric motors; by reciprocating internal combustion engines, or turbines operating on pure hydrogen.

3.5.1.1 Hydrogen Third-Party Production

Three equipment options were evaluated for production to meet the definition of clean renewable hydrogen.

1. Electrolyzers powered by renewable electricity (zero NOx)
2. Biomass gasification (zero NOx)
3. RNG SMR (some NOx)

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[24] Wang, L., et. al., 2004 Interactions among soot, thermal radiation, and NOx emissions in oxygen-enriched turbulent nonpremixed flames: a computational fluid dynamics modeling study - ScienceDirect

[25] Hansen, K.K., 2018, Electrochemical Removal of NOx Using Oxide-Based Electrodes – A Review, International Journal of Electrochemical Science 13 (10): 9273-9280, https://doi.org/10.20964/2018.10.09

Multiple scenarios were evaluated to estimate the range of low to high NOx emissions. Three different possibilities were calculated: 1) 100% production was completed by electrolysis using renewable electricity or biomass gasification, which would yield zero NOx emissions; 2) One-third of the production was completed by each method: electrolysis, biomass gasification, and SMR; and 3) 100% of the hydrogen was produced by SMR. The range extends from zero NOx emissions associated with the 100% electrolysis and the 100% biomass gasification scenarios to the highest potential NOx emissions for the 100% RNG SMR scenario. Equation 1 was used to conduct the NOx emissions calculations.

Fuel Throughput x Emissions Factor = Emissions (equation 1)

The first equation (equation 1) multiplies the fuel throughput of the fossil fuel or of the hydrogen by the respective emission factor to calculate the NOx emissions. The NOx emission estimates can be refined once assumptions regarding anticipated third-party hydrogen production processes have been developed and/or proportions of hydrogen intended to be produced from different methods have been identified.

3.5.1.1.1 Biomass Gasification

Within the biomass gasification process, biomass is thermochemically converted at high temperatures (700-1,400 Celsius) to a synthesis gas (syngas) through the process of gasification. Gasification is “the partial combustion of biomass by controlling the amount of air to transform hydrocarbons into carbon monoxide, carbon dioxide, and hydrogen.” [26]

Direct emissions measurement data for biomass gasification was not discovered. In addition, no calculation methodologies for NOx and other air pollutants were identified for the biomass gasification process. As biomass gasification is not a true combustion process, there is no known potential pathway for the formation of NOx emissions. Gasification also typically occurs in a low oxygen environment at equivalence ratios around 0.25 to 0.50, which minimizes the potential for NOx formation. Studies have noted that in gasification systems where the formation for NOx emissions is possible, De-NOx

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[26] Dai, B., W. Zhu, L. Mu, X. Guo, H. Qian, X. Liang, and G.M. Kontogeorgis, 2019, Effect of the Composition of Biomass on the Quality of Syngas Produced from Thermochemical Conversion Based on Thermochemical Data Prediction, Energy & Fuels 33(6): 5253–5262, https://doi.org/10.1021/acs.energyfuels.9b00106

technologies can be utilized for removal.[27] Another study noted that N_2 is typically the primary nitrogen component in the produced syngas, and that ammonia may also occur, particularly when using biomass such as animal waste that is high in protein. This study notes that standard catalytic reduction methods typically used for NOx reduction can be used to reduce any nitrogen compound in the produced syngas.[28] One study completed by Sikarwar et al (2016) notes that there is the potential for nitrogen contamination in the outlet of the biomass gasification system if fuel nitrogen is present.[29] For the purposes of this study, it is assumed that no nitrogen is contained in the biomass or any other fuel source for use in hydrogen production. Therefore, it is assumed that there are no NOx emissions from biomass gasification.

The biomass gasification process requires dry biomass for utilization. It is possible to obtain biomass containing moisture that would require drying on-site. However, this is dependent on the biomass available in the area and the supply chain and procurement for the specific facility. Due to the uncertainty around whether on-site drying would be required for each specific biomass gasification facility, this study assumed that biomass would be procured ready to utilize and would not require moisture removal on-site.

The syngas formed through biomass gasification can then be utilized in steam reforming to obtain additional hydrogen from the remaining hydrocarbons. Biomass gasification using steam as the oxidizing agent can achieve efficiencies of up to 44%.[30] Running the syngas through the steam reforming process improves the overall efficiency and converts any remaining hydrocarbons, primarily methane (CH_4), to hydrogen.

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[27] Safavi, S.M., C. Richter, and R. Unnthorsson, 2021, Dioxins and Furan Emissions from Gasification, in Gassification, V. Silva and C.E. Tuna, editors, https://www.intechopen.com/chapters/74698

[28] Balas, M., M. Lisy, J. Kubick, Jiri Pospisil, 2014, Syngas Cleaning by Wet Scrubber, WSEAS Transactions on Heat and Mass Transfer 9: 195-204, https://www.wseas.org/multimedia/journals/heat/2014/a025712-169.pdf

[29] Sikarwar, V.S., M. Zhao, P. Clough, J. Yao, X. Zhong, M. Zaki Memon, N. Shah, E.J. Anthony and P.S. Fennell, 2016, An overview of advances in biomass gasification, Energy and Environmental Science 9(10): 2927-3304, https://pubs.rsc.org/en/content/articlepdf/2016/ee/c6ee00935b

[30] Rödl, A., C. Wulf, M. Kaltschmitt, 2018, Chapter 3 – Assessment of Selected Hydrogen Supply Chains—Factors Determining the Overall GHG Emissions in Hydrogen Supply Chains, Editor: C. Azzaro-Pantel, Academic Press, ISBN 9780128111970, https://doi.org/10.1016/B978-0-12-811197-0.00003-8

3.5.1.1.2 Steam Methane Reforming

This study assumed that third party production using SMR would have RNG as the feedstock and external combustion technology fueled by hydrogen for heating. Therefore, there is the potential for NOx formation.

SMR utilizing natural gas as feedstock is commonly used for hydrogen production. A study published in 2022 evaluated the air pollutant emissions from 33 SMR facilities across the United States, excluding any co-refineries. The researchers evaluated emissions data for these facilities as reported under the EPA Greenhouse Gas Reporting Program (GHGRP), the National Emissions Inventory (NEI), and the Toxics Release Inventory (TRI). They determined production capacities for each of the 33 facilities using data from the Pacific Northwest National Laboratory (PNNL). By taking a direct average of the emissions data from each of these facilities, they found that natural gas SMR direct emissions were 0.00168 kg NOx/kg H_2 produced.[31]

The most important variable impacting the estimated NOx emissions from the SMR process is the external combustion heat rating required to produce the desired volume of hydrogen. Two potential cases for the required heat rating of the external combustion units were developed: maximum and minimum. These cases were developed based on the ratio of heat rating (MMBtu/hr) to facility production capacity (MMscf/day hydrogen produced) for facilities with specifications that were assumed to be representative of potential third-party production. The assumption was made that hydrogen would not be produced at a facility co-located with a refinery and therefore, design specifications for SMR facilities co-located at refineries were excluded from consideration within this study. To estimate an appropriate heat rating for the steam reforming process, air permits for existing steam methane reforming plants were reviewed. Only standalone SMR production facilities, external combustion units with a given heat rating rather than a "not-to-exceed" rating, and facilities with no more than 2 external combustion units were considered.

The external combustion unit heat rating was compared against the plant hydrogen production capacity to develop a ratio of (MMBtu/hr) / (MMscf/day hydrogen production). For facilities where the plant hydrogen production capacity was not identified in the air permit, the facility hydrogen production capacity was gathered from the PNNL Hydrogen

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[31] Cho, Hannah Hyunah, Vladimir Strezov, and Tim J. Evans, 2022, Environmental impact assessment of hydrogen production via steam methane reforming based on emissions data, Energy Reports 8: 13585-13595, https://doi.org/10.1016/j.egyr.2022.10.053

Analysis Resource Center North American Merchant Hydrogen Plant Production Capacity list.[32] Of these facilities considered, the average ratio was 2.97 MMBtu/hr per MMscf/day of hydrogen production. Three calculation cases were established, the maximum case using the average plus standard deviation for the ratio value (3.62), the average ratio value (2.97), and the minimum case using the average minus the standard deviation for the ratio value (2.32).

For the purposes of this study, it was assumed that the external combustion unit would operate using hydrogen as fuel. It was assumed that some of the hydrogen produced by SMR would be siphoned off to use as fuel. As such, the volume of hydrogen produced was increased based on the amount of hydrogen that would be needed as fuel. To calculate the amount of hydrogen that would be required for use as fuel to generate the necessary total volume of hydrogen to meet end-user demand, the end-user demand was converted to an MMscf/day value and the maximum MMBtu/hr case of 3.62 MMBtu/hr per MMscf/day of hydrogen production was utilized to determine an appropriate MMBtu/hr rating to meet the demand. The MMBtu/hr values were multiplied by 8,760 (hours/year) to calculate the maximum annual MMBtu value for the hydrogen fuel. This annual MMBtu value was added to the end-user MMBtu demand values for each Demand Scenario to determine the total estimated annual production volumes.

A thermal efficiency was then applied to account for the fact that energy conversion is generally less than 100%. Research was completed to determine an appropriate thermal efficiency for a hydrogen fueled external combustion unit. No single value was discovered that would be representative for all hydrogen fueled external combustion units. Therefore, an average of multiple values was utilized. Values were obtained from DOE, a study completed by Gupalo et al. (2023), and an article by Gerardo Lara in Power

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[32] Pacific Northwest National Laboratory (PNNL), 2016, North American Merchant Hydrogen Plant Production Capacities, data available on the Hydrogen Tools website, https://h2tools.org/hyarc/hydrogen-data/merchant-hydrogen-plant-capacities-north-america

Engineering.[33,34,35] Based on this information, an efficiency of 73% was applied for the hydrogen production calculations within this study.

Based on this methodology, roughly 38% of the hydrogen produced would be utilized as fuel for heat generation. As a note, this is likely a high estimate due to the use of only the maximum MMBtu/hr per MMscf/day hydrogen production ratio to determine fuel requirements. Utilizing the average case ratio yields a hydrogen use percent of total production of 31%, where the minimum case ratio yields 24%. A higher efficiency value would decrease these percentages.

For natural gas external combustion, an emission factor of 0.0062 lb/MMBtu or 5 ppm from South Coast AQMD Rule 1146 for boilers, steam generators, and process heaters greater than or equal to 5 MMBtu/hr (typically used in industrial, institutional, and commercial operations) was utilized. The correlation factor methodology was used to convert this emission factor to a NOx emission factor for pure hydrogen combustion.

3.5.1.2 Hydrogen Third-Party Storage and Transmission

Compressors will be needed for storage and transmission of hydrogen. Three options for types of compressors were evaluated.

1. Electric motor driven compressors (zero NOx)
2. Clean renewable hydrogen fueled reciprocating engine driven compressors (some NOx)
3. Clean renewable hydrogen fueled centrifugal turbine driven compressors (some NOx)

Potential emissions of NOx from hydrogen fueled reciprocating engine driven compressors and turbine driven compressors were calculated using equation 1.

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[33] DOE, Purchasing Energy-Efficient Large Commercial Boilers, https://www.energy.gov/femp/purchasing-energy-efficient-large-commercial-boilers

[34] Gupalo, O., 2023, Study of the efficiency of using renewable hydrogen in heating equipment to reduce carbon dioxide emissions, from IOP Conference Series: Earth and Environmental Science, doi:10.1088/1755-1315/1156/1/012035, https://iopscience.iop.org/article/10.1088/1755-1315/1156/1/012035/pdf

[35] Lara, G., 2022, Boilers running on hydrogen: What you need to know, from Power Engineering, https://www.power-eng.com/hydrogen/boilers-running-on-hydrogen-what-you-need-to-know/

Fuel Throughput x Emissions Factor = Emissions (equation 1)

The first equation (equation 1) multiplies the fuel throughput of the fossil fuel or of the hydrogen by the respective emission factor to calculate the NOx emissions. Hydrogen can be stored as a pure gas, pure liquid, or chemically when bonded with other substances (ex. metal hydrides).[36] In this study, hydrogen was only evaluated for storage as a compressed pure gas. Compressed gaseous hydrogen can be stored in aboveground pressure vessels or underground. Hydrogen transmission was evaluated with respect to pipeline transport with a total of 450 miles based on information provided by the Pipeline Sizing and Routing Study.

The third-party storage and pipeline transmission of gaseous hydrogen require compressors to pressurize hydrogen which will likely be powered by electric motors, reciprocating engines, or turbines.[37,38,39,40] Compressors driven by electric motors do not have emissions. For reciprocating engines or turbines as the driver of compressors, these will be powered by pure hydrogen combustion and will have the potential to produce NOx emissions.

A two-step calculation approach was utilized to determine NOx emissions from compression associated with third-party storage and transmission:

1. Estimate the total energy requirements to power compressors.
2. Calculate emissions from reciprocating engines and turbines associated with this energy.

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[36] Elberry, A.M., J. Thakur, A. Santasalo-Aarnio, and M. Larmi, 2021, Large-scale compressed hydrogen storage as part of renewable electricity storage systems, International Journal of Hydrogen Energy 46(29): 15671-15690, https://doi.org/10.1016/j.ijhydene.2021.02.080

[37] Solar Turbines Incorporated, 2021, Hydrogen Pipelines & Storage, presentation, https://netl.doe.gov/sites/default/files/netl-file/21TMCES_Kurz.pdf

[38] Tahan, M., 2022, Recent advances in hydrogen compressors for use in large-scale renewable energy integration, International Journal of Hydrogen Energy 47(83): 35275-35292, https://doi.org/10.1016/j.ijhydene.2022.08.128

[39] Witkowski, A., A. Rusin, M. Majkut, and K. Stolecka, 2017, Comprehensive analysis of hydrogen compression and pipeline transportation from thermodynamics and safety aspects, Energy 141: 2508-2518, https://doi.org/10.1016/j.energy.2017.05.141

[40] Di Bella, F.A., 2015, Development Of A Centrifugal Hydrogen Pipeline Gas Compressor, Technical Memorandum No. 1785 Concepts NREC Project No. 10195 Prepared for the DOE, https://www.osti.gov/servlets/purl/1227195/

Based on data from Bossel and Eliasson (2003),[41] the following information was required to determine expected NOx emissions from third-party storage and transmission:

- Hydrogen storage pressure
- Hydrogen storage quantity
- Hydrogen transmission distance
- NOx emissions factor for compressor power source

Storage pressure scenarios were developed based on storage pressures from Tahan (2022).[42] This publication presented a variety of hydrogen storage options at a high-level and their corresponding pressures. The highest and lowest pressures from this publication were utilized to represent the full range of potential storage pressures, and therefore third-party storage energy demands, from this project. These high and low storage pressure scenarios were 2,900 and 290 psi respectively, corresponding to storage underground and in spherical pressure vessels, respectively.

It was assumed that storage requirements would be similar between hydrogen and natural gas to accommodate fluctuations in fuel supply and demand. Data from the "2023 California Gas Report Supplement"[43] was used to estimate a California-specific value for the fraction of annual hydrogen demand that would be stored (2022 data). From this source, it was determined that the average quantity of supplied natural gas in California during 2022 was 6,023 MMcf/day, which equates to approximately 2,198 Bcf/yr. This source also indicated that in 2022 California had a natural gas storage capacity of approximately 304 Bcf. Dividing these two values yielded a maximum (conservative) fraction of annual natural gas demand that would be stored: 13.8%. This value was applied to hydrogen; therefore, it was assumed that annually 13.8% of hydrogen produced would be stored by third parties.

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[41] Bossel, U., and B. Eliasson, 2003, Energy and the Hydrogen Economy, https://afdc.energy.gov/files/pdfs/hyd_economy_bossel_eliasson.pdf

[42] Tahan, M., 2022, Ibid.

[43] California Public Utilities Commission, 2023, 2023 California Gas Report Supplement prepared per Decision D.95-01-039, https://www.socalgas.com/sites/default/files/Joint_Biennial_California_Gas_Report_2023_Supplement.pdf

The total energy requirement to power compressors for storage and transmission were developed from Bossel and Eliasson (2003),[44] a widely cited scientific paper. Figure 3 below is a chart from this publication of compression energy (MJ/kg) needed to compress hydrogen at various pressures. Using this figure, the amount of energy required to store hydrogen can be calculated given a particular quantity of hydrogen (kg) and storage pressure (bar). From Figure 3, the following values were derived.

- Pressure of 290 psi → 4 MJ/kg
- Pressure of 2,900 psi → 14 MJ/kg

The energy required to drive the compression storage was derived by converting the MJ/kg value to MMBtu using 1,055 J/BTU (conversion factor) and 51.9 MMBtu/100 MMBtu for efficiency and then multiplying the MMBtu value by the lb/MMBtu NOx emissions factor.

The transmission distance scenario was based on a preliminary pipeline length estimate of 450 miles based on information provided by the Pipeline Sizing and Routing Study. Rather than using a specific pressure for the transmission system, estimated gas consumption per kilometer (km) of pipeline to energize compressors was used to calculate the required MMBtu of hydrogen for the transmission of the volume of hydrogen provided in the Demand Scenarios and Throughput Scenarios. Specifically, Figure 4 below, is a chart of the percentage of hydrogen that would be consumed to power compressors to transport hydrogen over a particular distance of pipeline. This figure can be used to calculate the amount of hydrogen (and therefore energy) required to transport hydrogen a distance via pipeline.

The article indicated that 1.4% of the hydrogen flow would be required every 150 km to power or energize the compressors along the transmission system. This percentage of the projected hydrogen demand was used to calculate the MMBtu of hydrogen that would be combusted for the purposes of energizing the transmission compressors. The total energy required to power compressors used for third-party storage and transmission was estimated using this methodology from Bossel and Eliasson (2003).

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[44] Bossel, U., and B. Eliasson, 2003, Ibid.

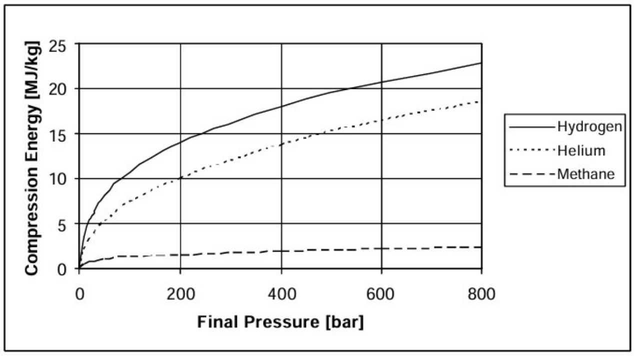

Figure 3: Adiabatic Compression Work for Hydrogen, Helium, and Methane

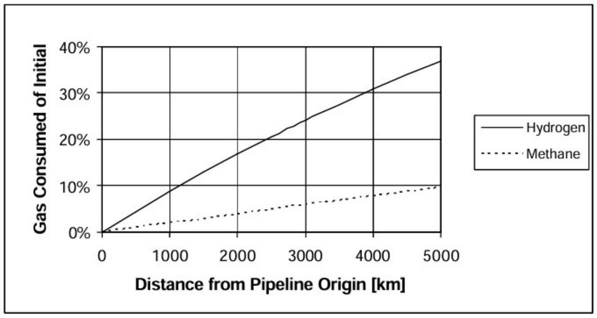

Figure 4: Fraction of Gas Consumed to Transport Hydrogen and Methane

Since compressors will potentially be powered by reciprocating engines or turbines, NOx emissions factors were sourced that corresponded to each of these. Emissions factors were developed similarly to the stationary source emission factors based on the most restrictive emissions factors from the air district prohibitory rules. For reciprocating engines and turbines, these emissions factors came from South Coast AQMD Rules 1110.2[45] and 1134[46], respectively. Efficiency values for each of these power source types were sourced from scientific literature to convert fuel energy (MMBtu) to energy supplied by power sources for compression (MJ). These efficiency values for hydrogen

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[45] South Coast AQMD, 2023a, Rule 1110.2 “Emissions from Gaseous and Liquid Fueled Engines” https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1110_2.pdf?sfvrsn=8

[46] South Coast AQMD, 2022c, Rule 1134 “Emissions from Oxides of Nitrogen from Stationary Gas Turbines” https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1134.pdf?sfvrsn=4

reciprocating engines and turbines were sourced from scientific literature as 60.3% and 51.9% respectively.[47] [48]

Based on Figures 3 and 4 above and information from the literature as summarized above, the compression needs for storage were determined to be 4 MJ/kg for storage pressure at 290 psi and 14 MJ/kg for storage pressure at 2,900 psi. Additionally, for transmission, the hydrogen that would be consumed by the reciprocating or centrifugal compressors, was determined to be 0.0093% of the volume in the pipelines per kilometer of transmission via pipelines.

NOx emissions were calculated by multiplying overall compressor energy demand by NOx emissions factor. NOx emissions were estimated for a total of 12 scenarios corresponding to four storage and transmission scenarios for each of the three Demand Scenarios. These four transmission and storage scenarios were based on each combination of two storage pressure scenarios, two pressure source scenarios, and one transmission distance scenario. This was repeated for a total of 12 scenarios for each of the three Throughput Scenarios. These emissions scenarios are listed in the table below. In combination, these scenarios represent the range of possible transmission and storage characteristics and the corresponding NOx emissions.

Storage Scenario:

- Underground Storage Pressure: 2,900 psi
- Aboveground Storage Pressure: 290 psi

Transmission Scenario:

- Compressors driven by electric motors running on renewable electricity.
- Engine driving reciprocating compressor: emissions factor for natural gas combustion of 11 ppmvd from South Coast AQMD Rule 1110.2 converted to pure hydrogen representative factor using correction factor methodology and 60.3% efficiency.

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[47] Babayev, R., H.G. Im, A. Andersson, and B. Johansson, 2022, Hydrogen double compression-expansion engine (H2DCEE): A sustainable internal combustion engine with 60%+ brake thermal efficiency potential at 45 bar BMEP, Energy Conversion and Management 264: 115698, https://doi.org/10.1016/j.enconman.2022.115698

[48] Salam, Md A., Md. A. Ali Shaikh, and K. Ahmed, 2023, Green hydrogen based Power Generation prospect for sustainable development of Bangladesh using PEMFC and hydrogen gas turbine, Energy Reports 9: 3406-3416, https://doi.org/10.1016/j.egyr.2023.02.024

- Turbine driving centrifugal compressor: emissions factor for natural gas combustion of 2.5 ppmvd from South Coast AQMD Rule 1134 converted to pure hydrogen representative factor using correction factor methodology and 51.9% efficiency.

Table 2
Storage and Transmission Calculation Scenarios Evaluated

Scenario	Storage Pressure	Transmission Distance	Compressor Driver	Demand
1	High (2,900 psi)	450 miles	Reciprocating Engine	Low
2	Low (290 psi)	450 miles	Reciprocating Engine	Low
3	High (2,900 psi)	450 miles	Turbine	Low
4	Low (290 psi)	450 miles	Turbine	Low
5	High (2,900 psi)	450 miles	Reciprocating Engine	Moderate
6	Low (290 psi)	450 miles	Reciprocating Engine	Moderate
7	High (2,900 psi)	450 miles	Turbine	Moderate
8	Low (290 psi)	450 miles	Turbine	Moderate
9	High (2,900 psi)	450 miles	Reciprocating Engine	High
10	Low (290 psi)	450 miles	Reciprocating Engine	High
11	High (2,900 psi)	450 miles	Turbine	High
12	Low (290 psi)	450 miles	Turbine	High

The table below illustrates the percentage reduction in NOx emissions when changing input variables between the transmission scenarios and storage scenarios, changing from underground (2,900 psi) to aboveground (290 psi) storage pressures, changing from engines driving reciprocating compressor to turbines driving centrifugal compressor, and changing from these combustion power source types to electricity.

In the transmission compression scenarios evaluated the largest potential for reduction in emissions would be realized by using electric motors rather than reciprocating engines or centrifugal turbines with electric motors. A reduction in emissions can also be achieved by switching reciprocating engines for turbines, resulting in an approximate 76% reduction in emissions regardless of storage pressure scenario. Where combustion sources are used to power compressors, switching from high to low pressure reduces emissions by

18% and 20% for reciprocating engines and turbines, respectively. These results clearly indicate that compression power source has the greatest impact on emissions with reciprocating engines resulting in the most emissions, followed by turbines, and finally with zero emissions attributed to electric motors powered by renewable electricity.

Table 3
Impact of Power & Storage Scenarios on Emissions Reductions

Power Scenario	Storage Scenario	Percent Emissions Reduction (%)
Reciprocating	Change High to Low Pressure	18%
Turbine	Change High to Low Pressure	20%
Electricity	Change High to Low Pressure	NA
Change Recip to Turbine	2,900 psi	76%
Change Recip to Electricity	2,900 psi	100%
Change Turbine to Electricity	2,900 psi	100%
Change Recip to Turbine	290 psi	77%
Change Recip to Electricity	290 psi	100%
Change Turbine to Electricity	290 psi	100%

3.5.2 End Users

Each of the end use sectors are anticipated to have varying levels of hydrogen adoption over time and may begin by using a hydrogen-natural gas blend that would be blended behind the customer's meter.

3.5.2.1 Mobility Sector

The Mobility sector is anticipated to use hydrogen fuel cells beginning in 2030. Research conducted under the parallel Demand Study Mobility model informed the analysis of potential hydrogen demand and the displacement of fossil fuels by hydrogen usage in this sector. Source types with NO_x emissions in this sector include on-road vehicles such as heavy-duty vehicles (HDV), medium-duty vehicles (MDV), and buses. With hydrogen fuel cells, the NOx and other air pollutant emissions from these on-road mobile sub-sectors using hydrogen within this study will be zero.

The Mobility sector also includes off-road vehicles within Agriculture, Commercial Habor Craft (CHC), Cargo Handling Equipment (CHE) at ports, Construction and Mining, and Ground Support Equipment at airports (GSE). With hydrogen fuel cells, the NOx and other air pollutant emissions from these off-road mobile sub-sectors using hydrogen within this study will be zero.

For off-road sources, data from the EMFAC model includes the NOx and other air pollutant emissions, fuel consumption, hours of operation per year, total population of vehicles, and horsepower hours per year. For on-road sources, the same data is available and additional data available includes vehicle miles traveled, trips per year, and emissions factors used to calculate emissions based on activity data. The data is provided for each vehicle category within each region/air district by year and fuel type, gasoline, diesel, and natural gas.

Fossil fuel emissions factors for mobile sources were developed utilizing the emissions and fuel consumption data provided by the CARB EMFAC model. These emissions factors were developed in units of tons of pollutants per gallon of fuel consumed for each sub-sector by year and fuel type. This was completed by utilizing the EMFAC projected mass emissions (short ton/year) for each pollutant for each vehicle category by year, region, and fuel type and dividing the emissions by the gallons of fuel consumed for the category. Once this factor of tons per gallon was developed for each vehicle category by year, region, and fuel type, they were weighted by the amount of fuel consumed by each vehicle category by year, region, and fuel type and the weighted factors were used to compile an overall emissions factor in tons of pollutant per gallon of fuel used for each sub-sector (encompassing each region and vehicle category) by year and fuel type. EMFAC does account for improvements in fuel efficiency and emissions control over the years. Therefore, NOx emissions factors calculated from EMFAC data for most sub-sectors decreases over time throughout the length of this study.

Table 4 below shows the average over the 15-year study period NOx emissions factors, as developed from EMFAC emissions and fuel consumption data, for the 15 years by fuel type for on-road versus off-road sub-sectors. For on-road sub-sectors, diesel has the largest NOx emissions factor whereas off-road sub-sectors, gasoline does.

Table 4
NOx Compiled Emissions Factors

Type	Fuel	NOx (ton/gal)
On-Road	Diesel	1.62E-05
On-Road	Gasoline	7.26E-06
Off-Road	Diesel	3.06E-05
Off-Road	Gasoline	3.17E-05

For the mobility sector it was assumed that hydrogen demand would be utilized in hydrogen fuel cells. Therefore, emissions of NOx and other air pollutants from mobile sources utilizing hydrogen within this study were assumed to be zero.

3.5.2.2 Power Generation Sector

Power Generation in California is primarily generated by internal and external combustion sources powered by liquid and gaseous fuels. Hydrogen usage in the Power Generation sector is anticipated to begin with hydrogen-natural gas blends and transition to pure hydrogen as the technology becomes available. The transition from blended to pure hydrogen fuels was evaluated by the Demand Study Power Generation model and based on technological and economic feasibility and air permitting BACT requirements. Research conducted under the parallel Demand Study informed the analysis of end uses in this sector.

All stationary source fossil fuel consumption in this study was represented as natural gas. The two sub-categories evaluated were: (1) peaker & baseload and (2) cogeneration. The fuel types considered for stationary calculations were pure hydrogen, pure natural gas, and hydrogen-natural gas blends (of various percentages).

Table 5 below shows the proportion of fuel assumed to be combusted within each of the four combustion equipment categories as developed from information in the CARB Standard Emission Tool (CEPAM2019v1.03),[49] and emissions factors for each category developed from regulatory mandated emissions limitations within the geographic region

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[49] CARB, 2024b, Standard Emission Tool CEPAM2019v1.03, CARB webpage, https://ww2.arb.ca.gov/applications/statewide-emissions

of this study. It is assumed that the proportion of fuel throughput within each equipment category does not change over time. Based on the data from the CARB Standard Emission Tool (CEPAM2019v1.03), 99.0% of total fuel throughput in the cogeneration sub-sector is utilized in internal combustion turbines which have the lowest emissions factor of all the equipment categories evaluated within the Power Generation sector. In Peaker and Baseload, 94.2% of equipment is assumed to be turbines. This higher proportion of turbines in cogeneration may contribute, in part, to the lower contribution of total NOx mass emissions from cogeneration as compared to power generation. While equipment proportions contribute a small amount, the largest contributor to the difference in NOx mass emissions between cogeneration and peaker and baseload is the overall energy demand between the sub-sectors.

Table 5
Proportion of Equipment Categories in Power Generation Sub-sectors

Angeles Link Study Sub-Sector	Equipment Category	Through-put Fraction	NOx 100% NG EF Value (lb/MMBtu)	NOx EF Air District	NOx EF Rules	Note	NOx 100% Hydrogen EF (lb/MMBtu)
Baseload and Peaker	General External Combustion	5.7%	0.0145	South Coast	1146, 1146.1, 1146.2	Average of Multiple	0.0136
	Reciprocating Engine	0.1%	0.0405	South Coast	1110.2	Single Factor	0.0381
	Turbine	94.2%	0.0083	South Coast	1135	Average of Multiple	0.0078
Cogeneration	General External Combustion	0.8%	0.0145	South Coast	1146, 1146.1, 1146.2	Average of Multiple	0.0136
	Reciprocating Engine	0.2%	0.0405	South Coast	1110.2	Single Factor	0.0381
	Turbine	99.0%	0.0074	South Coast	1134	Single Factor	0.0069

3.5.2.3 Hard to Electrify Industrial Sector

Hard to electrify industrial sectors include energy intensive industries such as refining, food and beverage manufacturing, primary and fabricated metals, stone, glass, and cement, paper, chemical manufacturing, and aerospace & defense. Equipment types with the potential for NO_X emissions in these sectors include hot water boilers, steam generating units, process heaters, furnaces/kilns, reciprocating internal combustion engines, turbines, and miscellaneous combustion equipment. The Demand Study did not specify the quantities of industrial hydrogen demand that would be blended.

Emission calculations were developed given the following assumptions:

- A percentage of the total hydrogen demand would be used as a blended fuel with natural gas; blending would happen by the customer behind the meter.
- Manufacturer data, air permitting NOx emission limits, and equipment retirement rates were used as a basis.
- The hydrogen-natural gas percentage of blended fuels was estimated based on manufacturers specification sheets and direct measurement study data for reciprocating engines, turbines, general external combustion units, and ovens.

It was assumed that the hydrogen-natural gas percentage for blended hydrogen would vary by equipment-type. The values in Table 6 are based on an assumption of steady incremental increases with a goal of complete transition by 2050. The values in Table 7 were estimated based on manufacturer specification sheets and direct measurement studies. A dataset consisting of 22 data points, across 14 manufacturers, from manufacturer's data and scientific literature were used to estimate equipment-level hydrogen-natural gas blending percentages by taking a direct average. The estimated emissions are based on these assumptions.

Table 6
Equipment-Level Hydrogen-Natural Gas Blending Percentages

Equipment Type	**Percent of Total Hydrogen Demand as 100% Hydrogen**					
	2025	**2030**	**2035**	**2040**	**2045**	**2050**
Engine	0	20	40	60	80	100
Turbine	0	20	40	60	80	100
External Combustion	0	20	40	60	80	100
Oven	0	20	40	60	80	100

Table 7 **Equipment Level Hydrogen Blending Ratios by Volume for Industrial End-Users**	
Equipment Type	**Hydrogen to Natural Gas Ratio**
Engine	25%
Turbine	57%
External Combustion	22%
Oven	22%

Table 8 below shows the percentage of sub-sector fuel throughput and emissions factors for each of the four equipment categories in the hard to electrify industrial sub-sectors. The study assumed that refineries use 21.2% of their fuel in external combustion and 78.6% of their fuel in turbines, which have the lowest emissions factor. Due to the similarities in the proportions of fuel used by each equipment type within all of the hard to electrify industrial sub-sectors, it is not likely that the variations in fuel usage proportions between equipment types makes a noticeable impact on emissions reductions between sub-sectors. The largest variable contributing to the difference in emissions reductions between sub-sectors comes from the projected hydrogen demand.

Table 8
Equipment Categories in Hard to Electrify Industrial Sub-sectors and Percent of Fuel and Emissions Factors

CARB Inventory Sector/Study Sub-Sector	Equipment Category	Throughput %	NOx 100% NG EF lb/ MMBTU	Air District Source of NOx EF	NOx EF Rules	Note	NOx 100% Hydrogen EF (lb/MMBTU)
Food and Beverage/ Food and Beverage	General External Combustion	98.6%	0.0145	South Coast	1146, 1146.1, 1146.2	Average of Multiple	0.0136
	Oven	0.1%	0.0492	SJV	4309	Single Factor	0.0462

Table 8
Equipment Categories in Hard to Electrify Industrial Sub-sectors and Percent of Fuel and Emissions Factors

CARB Inventory Sector/Study Sub-Sector	Equipment Category	Throughput %	NOx 100% NG EF lb/ MMBTU	Air District Source of NOx EF	NOx EF Rules	Note	NOx 100% Hydrogen EF (lb/MMBTU)
	Reciprocating Engine	1.1%	0.0405	South Coast	1110.2	Single Factor	0.0381
	Turbine	0.3%	0.0092	South Coast	1134	Single Factor	0.0087
Manufacturing and Industrial/ Metals, Stone/ Glass/ Cement, Paper, Chemicals, Aerospace and Defense	General External Combustion	81.2%	0.0145	South Coast	1146, 1146.1, 1146.2	Average of Multiple	0.0136
	Oven	0.2%	0.0492	SJV	4309	Single Factor	0.0462
	Reciprocating Engine	12.8%	0.0405	South Coast	1110.2	Single Factor	0.0381
	Turbine	5.8%	0.0092	South Coast	1134	Single Factor	0.0087
Refining/ Refineries	General External Combustion	21.2%	0.0145	South Coast	1146, 1146.1, 1146.2	Average of Multiple	0.0136
	Reciprocating Engine	0.2%	0.0405	South Coast	4309	Single Factor	0.0381
	Turbine	78.6%	0.0074	South Coast	1134	Single Factor	0.0069

3.5.3 Conduct Emission Calculations

The study prepared emission calculations using emission factors and activity data compiled for each of the topic areas.

- The tool was designed to conduct calculations at the unit level (per unit equipment count, unit distance, unit throughput, or other unit parameters, as applicable).
- The emissions calculation tool was scaled from unit level information to estimate impacts across the geographic region that Angeles Link would potentially span.
- Emission calculations utilized information from evaluated research, the Demand Study, and other Phase 1 feasibility studies.

There are several modeling studies and direct measurement studies related to NOx emissions from hydrogen combustion. Research completed for this study did not reveal published hydrogen-specific combustion emission factors for NOx. Multiple modeling studies have demonstrated that equipment can be designed to minimize the formation of NOx emissions from hydrogen combustion, typically by reducing combustion temperature or residence time. Direct measurement includes continuous emissions monitoring systems (CEMS) and stack testing. Results from direct measurement studies are variable, and most were completed on equipment originally designed to combust natural gas rather than hydrogen.

Few manufacturers have published NOx emissions data from hydrogen combustion in their units. With the bulk of hydrogen combustion technology still in development, the availability of actual NOx emissions data specific to hydrogen combustion is low at this time of this evaluation.

Emissions minimization methodologies can be implemented to reduce NOx emissions including equipment design, pre-mixing of air and fuel, management of air to fuel ratio to control combustion temperature, and emerging aftertreatment technologies. NOx control equipment options also include existing technologies such as selective catalytic reduction (SCR) and non-selective catalytic reduction (NSCR).

4.0 BACKGROUND INFORMATION

4.1 PROPERTIES OF HYDROGEN

To quantify NOx emissions from the combustion of hydrogen, it is important to understand the combustive properties of hydrogen and the potential pathways for the formation of NOx. Hydrogen has unique combustive properties that impact NOx formation when combusted. Hydrogen's wide range of flammability allows it to operate, depending on equipment type, on a variety of air-to-fuel ratios. Additionally, hydrogen's high autoignition temperature permits higher compression ratios in reciprocating compressors, while its high flame speed at stoichiometric ratios increases thermal NOx emissions in turbine.[50] Hydrogen's lower heat content than natural gas results in a lower power output per volume compared to natural gas, gasoline, or diesel fuels. Consequently, three times more hydrogen (by volume) is required to achieve the same thermal output as natural gas.[51]

4.2 REGULATORY INFORMATION

Air quality regulation can provide limits to the allowable air pollutant emissions and can also help incentivize research and development into new technologies. Regulatory incentives have the potential to increase demand for a product. Regulatory pressures have the potential to dictate why one product will be developed as compared to another. The breadth of existing and proposed regulations at the local, state, and federal levels related to hydrogen was considered in this study.

4.2.1 Federal Regulatory Landscape

Inflation Reduction Act (IRA) of 2022[52]: The IRA provides a ten-year Production Tax Credit for clean hydrogen produced after December 31, 2022. The IRA added Section 45V to the Internal Revenue code to define tax credit tiers for “qualified clean hydrogen”

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[50] Onorati, A. R. Payri, B.M. Vaglieco, A.K. Agarwal, C. Bae, G. Bruneaux, M. Canakci, M. Gavaises, M. Günthner, C. Hasse, S. Kokjohn, S-C. Kong, Y. Moriyoshi, R. Novella, A. Pesyridis, R. Reitz, T. Ryan, R. Wagner, and H. Zhao, 2022, The Role of Hydrogen for Future Internal Combustion Engines, International Journal of Engine Research 23(4):529-540, https://doi.org/10.1177/14680874221081947

[51] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units, Ibid.

[52] US Congress, 2022, Inflation Reduction Act, Public Law 117-169, August 16, https://www.congress.gov/117/plaws/publ169/PLAW-117publ169.pdf

with a well-to-gate GHG emissions rate of less than 4.0 kilograms of CO_2e per kilogram of hydrogen. Providing that prevailing wage and apprenticeship requirements are satisfied, Section 45V designates four tax credit tiers based on the carbon intensity of hydrogen produced, with credits starting at $0.60 per kg for hydrogen emitting between 2.5 kg and 4 kg of CO_2e per kg produced, rising to $3.00 per kg for hydrogen emitting less than 0.45 kg of CO_2e per kg of hydrogen produced.[53]

As directed by the Clean Air Act, EPA sets **New Source Performance Standards** (NSPS) to regulate pollution emitted by new and modified equipment. Current standards for existing natural gas combustion units do not apply to units that combust 100% hydrogen fuels.

The Clean Air Act requires the EPA to establish and enforce **National Ambient Air Quality Standards** (NAAQS) for criteria pollutants including ozone (O_3), carbon monoxide (CO), lead (Pb), particulate matter (PM), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). The California Air Resources Board (CARB) has also established and enforces the **California Ambient Air Quality Standards** (CAAQS). If a local air district does not meet the NAAQS or CAAQS, it is deemed to be "nonattainment." Areas that are designated as nonattainment are required to develop implementation plans outlining steps and processes that will help the area reduce its emissions and achieve attainment. Eight of the nine air districts within the geographic scope of this study are designated as non-attainment for ozone: Eastern Kern County APCD, Imperial County APCD, San Joaquin Valley APCD, Santa Barbara County APCD, South Coast AQMD, Ventura County APCD, Antelope Valley AQMD, and Mojave Desert AQMD.[54] San Luis Obispo County is the only county located within the geographic scope of this study that is currently in attainment for all criteria pollutants.

Air permitting of new or modified equipment includes implementation of New Source Review (NSR) requirements. Application of Best Available Control Technology (BACT) or

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[53] Id. As of this writing, the Internal Revenue Service (IRS) is still finalizing regulations to implement the Section 45V Credit for Production of Clean Hydrogen. In December 2023, IRS published a notice of proposed rulemaking. *See 88 Federal Register 89220*, "Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property," 12/26/2023, https://www.federalregister.gov/documents/2023/12/26/2023-28359/section-45v-credit-for-production-of-clean-hydrogen-section-48a15-election-to-treat-clean-hydrogen.

[54] CARB, 2023a, Nonattainment Area Plans, CARB webpage, https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans

Lowest Achievable Emissions Rate (LAER) emission limits is required. Each district implements BACT and LAER requirements using their own rules.[55] This includes hydrogen technology and equipment.

The EPA signed the final rule for the **Clean Trucks Plan** on December 20, 2022 which focuses on reducing emissions from heavy-duty engines and vehicles beginning in model year 2027.[56]

4.2.2 California State Regulatory Landscape

On the state level, California has a unique regulatory structure around hydrogen, renewable fuels and minimization of NO_x emissions.

The **California Clean Air Act (CCAA)** establishes California ambient air quality standards (CAAQS) specific to California. Local air district rules and regulations are built around these standards similar to how other states build their rules and regulations around the NAAQS.

Senate Bill 350 (SB 350) Clean Energy and Pollution Reduction Act was issued in 2015. The objectives outlined in SB 350 included procuring 50% of the state's electricity from renewable sources by 2030 and doubling statewide energy efficiency savings in electricity and natural gas to retail customers by January 1, 2030.[57]

Senate Bill 100 (SB 100) 100 Percent Clean Energy Act of 2018 set a goal of powering all retail electricity sold in California, as well as state agency electricity needs, with renewable and zero-carbon resources by 2045. By 2030, at least 60% of California's electricity would need to be renewable.[58] SB 100 requires California Energy Commission (CEC), California Public Utilities Commission (CPUC), and CARB to issue joint policy

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[55] CARB, 2023b, Best Available Control Technology Definitions, CARB webpage, https://ww2.arb.ca.gov/our-work/programs/stationary/stationary-source-permitting/bact-program/bact-definitions

[56] EPA, 2024b, Clean Trucks Plan, https://www.epa.gov/regulations-emissions-vehicles-and-engines/clean-trucks-plan

[57] State of California, 2015, SB350, Clean Energy and Pollution Reduction Act of 2015, filed October 7, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350

[58] State of California, 2018, SB100 California Renewables Portfolio Standard Program: emissions of greenhouse gases, filed September 10, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100

reports every four years beginning in 2021.[59] Senate Bill 1075 (SB 1075) requires CARB, CPUC, and the California Workforce Development Board to conduct an evaluation on hydrogen that includes policy recommendations to assist in implementing the production and use of hydrogen in California. The assessment was required by legislation to be published by June 1, 2024, however a draft has not yet been released.[60] Senate Bill 1389 (SB 1389) Energy: planning and forecasting of 2002 requires the California Energy Commission to prepare an integrated energy policy report (IEPR) every two years.[61] The most recent report was published in 2024.[62]

California Governor's Executive Order (EO) N-79-20[63] Zero-Emission by 2035 was issued in 2020 pertaining to on-road and off-road mobile sources of emissions. This EO outlines a state goal that 100% of in-state sales of passenger vehicles be zero-emission by 2035. Also, 100% of medium and heavy-duty State government vehicles must be zero-emission by 2045 for all operations where feasible, and 2035 for drayage trucks. The EO also outlined a goal that State government should transition to 100% zero-emission off-road vehicles and equipment by 2035, where feasible. "Zero-emission vehicle" or "ZEV" means a vehicle that produces no emissions from the onboard source of power, as defined by CARB in their glossary of terms.[64] Per DriveClean.org, developed by CARB, only battery-electric vehicles and hydrogen fuel cell electric vehicles currently meet this definition.[65]

Regulation established by CARB to meet the goals outlined in this EO include the **Advanced Clean Trucks regulation** for on-road vehicles weighing more than 8,500 pounds,[66] the **Advanced Clean Cars II** for passenger cars, light-duty trucks, and

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[59] California Energy Commission, 2023a, SB 100 Joint Agency Report, agency website, https://www.energy.ca.gov/sb100

[60] State of California, 2022a, SB1075 green hydrogen: emissions of greenhouse gases, September 16, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1075

[61] State of California, 2002, SB1389 Energy: planning and forecasting, September 14, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=200120020SB1389

[62] California Energy Commission, 2023b, Adopted 2023 Integrated Energy Policy Report, 2023 Integrated Energy Policy Report (ca.gov)

[63] Executive Department State of California, 2020, EO-N-79-20, https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf

[64] CARB, 2023c, Glossary, https://ww2.arb.ca.gov/glossary

[65] DriveClean, 2023, Glossary, https://driveclean.ca.gov/glossary

[66] CARB, 2021a, Advanced Clean Trucks Regulation, filed March 15, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks

medium-duty vehicles,[67] and the **Advanced Clean Fleet regulation** for drayage operations at seaports and railyards, fleets owned by State, local, and federal government agencies, and high priority fleets.[68]

The state has also issued the **Innovative Clean Transit regulation** requiring that 100% of new bus sales must emit zero emissions by 2029, and 100% of on-road transit buses must emit zero emissions by 2045.[69] Additionally, the Alameda-Contra Costa Transit District which is the largest public bus-only transit agency in California is a recognized leader is zero emission buses both nationally and internationally with both hydrogen fuel cell and battery electric buses in their fleet.[70]

CARB 2022 State Implementation Plan: California Air Resources Board adopted the 2022 State SIP Strategy on September 22, 2022.[71] The SIP Strategy outlines many of the regulations discussed in this report, along with estimated emissions reductions and implementation plans.

Within CARB's 2022 State Implementation Plan (SIP), they requested that the EPA require zero-emissions from on-ground operations at California airports. CARB stated that zero emissions from on-ground operations would be required in order for South Coast AQMD to meet their required NO_x emissions reductions due to their non-attainment status for ozone by 2037.[72] In 2018 through 2020, CARB considered a **Zero-Emission Airport Ground Support Equipment program** but has not finalized any requirements under such a program other than an announcement on July 22, 2024 that CARB intends to explore development of a Zero Emission Airport Ground Operations Regulation to require

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[67] CARB, 2022a, Advanced Clean Cars II, filed November 30, CARB regulation webpage https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii.

[68] CARB, 2022b, Advanced Clean Fleets Regulation, Appendix A-2: High Priority and Federal Fleets Requirements, Public Hearing Notice and Material Posted August 30, 2022, https://ww2.arb.ca.gov/rulemaking/2022/acf2022

[69] California Code of Regulations, 2019, Article 4.3 Innovative Clean Transit of Title 13. Motor Vehicles, August 13, unofficial electronic version, https://ww2.arb.ca.gov/sites/default/files/2019-10/ictfro-Clean-Final_0.pdf

[70] AC Transit, Zero Emission Bus Transition Plan, 2022, 0162-22 ZEB Transition Plan_052022_FNL.pdf (actransit.org)

[71] CARB, 2022c, 2022 State Strategy for the State Implementation Plan, Adopted September 22, https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf

[72] CARB, 2022c, 2022 State Strategy for the State Implementation Plan, Ibid.

zero-emission taxiing, zero-emission ground support equipment, and zero-emission gate operations.[73]

The **Zero Emission Airport Shuttle Rule** outlines that 100% of on-road airport vehicles and equipment must be zero emissions by 2035 where feasible.[74]

CARB is considering expanding its **Clean Off-Road Equipment Voucher Incentive Project (CORE)** program,[75] which provides vouchers to purchasers of zero-emission offroad freight equipment, to include agriculture.[76]

CARB is investing cap-and-trade dollars into a program called **Funding Agricultural Replacement Measures for Emission Reductions (FARMER)**. The FARMER program was established per Assembly Bill (AB) 134 and AB 109. The program aims to develop ZEV technology for the off-road agricultural Mobility sources.[77]

CARB adopted a **Zero Emission Forklift** rule in June 2024which phases out the operation of large spark-ignited (LSI) forklifts in California and spurs the use of zero-emissions alternatives. Manufacturers will no longer be allowed to produce or sell, for use in California, Class IV and Class V LSI forklifts, categories that largely operate on propane, gasoline and natural gas, beginning in 2026. The rule also phases out the use of spark-ignited forklifts by large fleets, defined as 26 units or more, starting in 2028. Smaller fleets will phase out use of spark-ignited forklifts starting in 2029.[78]

CARB has funded a project with GTI Energy called **Zero Emission for California Ports (ZECAP)** to develop and demonstrate zero-emission hydrogen fueled yard trucks at the Port of Los Angeles (POLA). Capacity Trucks built two hydrogen-fueled yard trucks, powered by Ballard fuel cell engines, which were then tested at the TraPac Terminal at

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[73] CARB, 2023i, Zero-Emission Airport Ground Support Equipment, CARB webpage, https://ww2.arb.ca.gov/our-work/programs/zero-emission-airport-ground-support-equipment

[74] CARB, 2019, Zero-Emission Airport Shuttle Regulation Factsheet, October, https://ww2.arb.ca.gov/sites/default/files/2019-10/asb_reg_factsheet.pdf

[75] CARB, 2024d, Clean Off-Road Equipment Vouchers, https://ww2.arb.ca.gov/our-work/programs/clean-off-road-equipment-voucher-incentive-project

[76] CARB, 2022c, 2022 State Strategy for the State Implementation Plan, Ibid.

[77] CARB, 2023d, FARMER Program, CARB webpage, https://ww2.arb.ca.gov/our-work/programs/farmer-program

[78] CARB, 2024c, Zero Emission Forklifts, https://ww2.arb.ca.gov/news/californias-forklifts-become-cleaner-and-less-polluting

the POLA for one year. They found that these hydrogen-fueled yard trucks operated successfully and with 2.5 to 3 times the efficiency of conventional diesel powertrains.[79]

The goal of zero-emissions from off-road mobility vehicles by 2035 outlined in EO N-79-20 applies to commercial harbor crafts. CARB published amendments to the Commercial Harbor Craft Regulation which includes requirements for short-run ferries and excursion vessels to meet **Zero-Emission and Advanced Technologies (ZEAT)** for new and newly acquired vehicles, and in-use short run ferries, after January 1, 2023.[80]

2021 Senate Bill 643 requires the California Energy Commission (CEC), CARB, and CPUC to assess the hydrogen infrastructure and fuel production required for the transition to ZEVs.[81] They are hoping that their equipment can ultimately qualify as a “Zero Emission Vehicle” under CARB’s Advanced Vehicle regulations. However, at this time, the only vehicle types that qualify as ZEVs are electric vehicles and hydrogen fuel cell vehicles. There are multiple California Assembly and Senate bills related to renewable energy and a hydrogen economy that have been introduced, but not yet implemented.

Assembly Bill 324 (AB 324) Utilities and Energy – Gas Corporations, Renewable Gas Procurement was introduced in 2023. This bill would require the CPUC to establish procurement goals for renewable hydrogen and consider requiring each gas corporation and core transport agent to meet these goals.[82]

Senate Bill 746 (SB 746) Energy Conservation Contracts would add hydrogen to the list of primary fuel sources under the definition of “alternate energy equipment.” Current law states that “a public agency, as defined, may enter into specified energy conservation contracts, including contracts for the sale of electricity, electrical generating capacity, or thermal energy produced by the energy conservation facility at such rates and on such

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[79] Sowa, B., 2023, Zero and Near Zero Emission Freight Facilities Project: Zero Emissions for California Ports (ZECAP), GTI Energy, May

[80] State of California, 2022b, Final Regulation Order Commercial Harbor Craft Regulation, Final Regulation Order: title 13, section 2299.5 and title 17, section 93118.5, Filed December 30, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2021/chc2021/chcfro.pdf

[81] State of California, 2021, SB643 Fuel cell electric vehicle fueling infrastructure and fuel production: statewide assessment, October 8, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB643

[82] State of California, 2023a, AB324 Gas Corporations: renewable gas procurement, March 27, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202320240AB324

terms as are approved by its governing body." "Energy conservation facility" is defined as alternate energy equipment, and SB 746 would add hydrogen to this definition.[83]

CARB has also issued the **Low NO_x Heavy-Duty Omnibus Regulation**, requiring a warranty from the manufacturer for emissions for 12 years or 800,000 miles. The rule was approved for adoption by CARB on August 27, 2020. Amendments to this regulation were proposed in 2023 to provide more flexibility for engine manufacturers.[84] The purpose of this regulation is to add additional controls to heavy-duty trucks, particularly during low load conditions. Within this rule, NO_x standards are reduced by 75% in 2024, increasing to 90% reductions by 2027. The rule also revamps the in-use testing program, adjusts warranty requirements, increases the durability demonstration program, amends the emissions averaging, banking, and trading program, and provides test procedures for powertrain certification of heavy-duty hybrid vehicles.[85]

CARB has implemented a **Community Air Protection Program** (CAPP), per AB617,[86] to improve local air quality with the support of residents. Blueprint 2.0, their first five-year update to the strategy, was approved by the board in October 2023. Three new tools were added to the program, including community air grants, flexible use of incentive funds to meet community goals, and community-focused enforcement. The program pulls together members of disadvantaged communities with the local air districts in decision making and planning for reducing air pollution within their communities.[87]

4.2.3 Local Air Districts Landscape

California has thirty-five local Air Districts throughout the state. These districts are responsible for managing air pollutant emissions within their geographic region. They do this through planning, monitoring, and air permitting of equipment. Each district has its

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[83] State of California, 2023b, SB746 Energy conservation contracts: alternate energy equipment: green hydrogen: Tri-Valley-San Joaquin Valley Regional Rail Authority, October 7, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB746

[84] CARB, 2023e Proposed Amendments to the Heavy-Duty Engine and Vehicle Omnibus Regulation, CARB webpage last updated December 6, https://ww2.arb.ca.gov/rulemaking/2023/hdomnibus2023

[85] CARB, 2020, Facts about the Low NOx Heavy-Duty Omnibus Regulation, Ibid.

[86] CARB, 2023g, AB 617 Implementation, CARB website, https://ww2.arb.ca.gov/our-work/programs/resource-center/ab-617-implementation

[87] CARB, 2023h, Community Air Protection Blueprint, CARB webpage, https://ww2.arb.ca.gov/capp-blueprint

own set of regulations, permitting requirements, and emissions limitations for equipment.[88]

The EPA defines a State Implementation Plan (SIP) as “a collection of regulations and documents used by a state, territory, or local air district to implement, maintain, and enforce the National Ambient Air Quality Standards, or NAAQS, and to fulfill other requirements of the Clean Air Act.” [89] SIPs outline plans for how a state will maintain or obtain compliance with the NAAQS. SIPs must be approved by the EPA, and examples of what may be included in the SIP include maintenance plans, emissions inventories, monitoring networks, permitting programs, attainment demonstrations, transportation control measures, and contingency measures.

Local air districts in non-attainment areas are also required to develop implementation plans, or air quality management plans outlining how they will achieve attainment status. The South Coast AQMD published their most recent AQMP on December 2, 2022, which outlines their projected emissions, emissions reductions, and plans for meeting attainment status.[90] The San Joaquin Valley APCD published their most recent air quality plan, the 2022 Ozone Plan, in 2022. The plan outlines their attainment strategy and demonstration, emissions inventory, and incremental progress, among other topics. [91] Both the South Coast AQMD and San Joaquin Valley APCD 2022 plans were approved by CARB on January 26, 2023 and are awaiting EPA’s approval for inclusion into the SIP.

Air permitting of new or modified equipment includes implementation of New Source Review (NSR) requirements. Application of Best Available Control Technology (BACT) or Lowest Achievable Emissions Rate (LAER) emission limits is required. Each district

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[88] CARB, 2023f, California Air Districts, CARB webpage, https://ww2.arb.ca.gov/california-air-districts

[89] EPA, 2023b, Basic Information about Air Quality SIPs, EPA webpage accessed 2023 at https://www.epa.gov/air-quality-implementation-plans/basic-information-about-air-quality-sips

[90] South Coast Air Quality Management District (South Coast AQMD), 2022, 2022 Air Quality Management Plan (AQMP), https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan

[91] San Joaquin Valley Air Pollution Control District, 2023, 2022 Ozone Plan For the San Joaquin Valley, webpage, https://ww2.valleyair.org/rules-and-planning/air-quality-plans/ozone-plans/2022-ozone-plan-for-the-san-joaquin-valley/

implements BACT and LAER requirements using their own rules.[92] These LAER and BACT requirements mean that new and modified equipment will need to meet the lowest emissions limits technologically feasible. It is assumed that the California regulatory environment would not allow for an increase in permitted equipment NO_x emission limits at stationary sources. As such, it was assumed that technological advancements for combustion and emission controls would be in place so that the permitted NO_x emission limits would stay the same or decrease with the combustion of hydrogen in equipment in the power generation and hard to electrify industrial sectors.

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[92] CARB, 2023b, Best Available Control Technology Definitions, CARB webpage, https://ww2.arb.ca.gov/our-work/programs/stationary/stationary-source-permitting/bact-program/bact-definitions

5.0 TECHNOLOGY DEVELOPMENTS

This study collected, reviewed, and analyzed technical research studies and information related to NO_x emissions associated with the combustion of hydrogen. This effort included studies from research-based academic institutions such as the University of California Irvine (UCI) Combustion Laboratory and the Georgia Institute of Technology; private organizations such as the Electric Power Research Institute; existing, proposed, and potential future requirements from federal agencies including the EPA, the DOE and the NREL; state agencies such as the California Air Resources Board (CARB) and the California Energy Commission (CEC); and local agencies including each of the nine local air districts located within the geographic scope of this study; technological developments and timelines from manufacturers working on hydrogen technology such as Siemens, Mitsubishi, General Electric, and Cummins; hydrogen demand from the Demand Study; and other Phase 1 studies.

5.1 HYDROGEN CONVERSION TECHNOLOGIES

To develop and quantify emissions estimates, it was important to understand the current technology landscape. It is important to evaluate the types of hydrogen conversion technology (technologies that convert the energy in hydrogen to power or heat) that are currently in production and commercially available, what types of technologies are being researched, tested in the prototype phase, and those that are still conceptual. It is also important to evaluate manufacturers goals and stated timeframes for when hydrogen technology is expected to become commercially available as well as the development timelines outlined by the DOE.

Manufacturers are developing and commercializing combustion technology capable of operating on 100% hydrogen fuel for applications in power generation, industrial heating, mobility, and other sectors. For example, there are existing turbine units capable of combusting 100% hydrogen fuels. However, these are typically smaller industrial or aeroderivative units such as the 30-40 MW Siemens Aeroderivative SGT-A35 or the 10-15 MW Siemens SGT-400. Manufacturers are still largely developing combustion technology for large-frame turbines capable of combusting 100% hydrogen fuel while minimizing air pollutant emissions.[93]

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[93] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units, Ibid.

Studies indicate that many existing natural gas combustion units can operate effectively on blended hydrogen fuels of up to 30% without design modifications.[94,95,96,97]

Some existing burner equipment can effectively operate on hydrogen fuel blends upwards of 70% without modification, such as the ultralow NO_x residential water heaters tested by the UCI Combustion Laboratory. The same study found that conventional water heaters could only typically operate on hydrogen blends of up to 40-50% by volume.[98] The percentage of hydrogen by volume that an existing combustion unit can utilize without modification depends on a wide range of variables.

Current and developing hydrogen conversion technology can be grouped into three primary categories: hydrogen fuel cells, hydrogen combustion engines, and hydrogen turbines.

5.1.1 Fuel Cells

Fuel cell hydrogen vehicles (FCEVs) generate electricity from hydrogen in the fuel cell and use that electricity to power an electric motor much like an electric vehicle and their efficiency can be as high as 60-80%.[99] Polymer electrolyte membrane fuel cell (PEMFC) or proton exchange membrane (PEM) is the most common hydrogen fuel cell technology

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[94] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units, Ibid.

[95] National Energy Technology Laboratory, 2022, Ibid.

[96] Glanville, P., A. Fridlyand, B. Sutherland, M. Liszka, Y. Zhao, L. Bingham and K. Jorgensen, 2022, Impact of Hydrogen/Natural Gas Blends on Partially Premixed Combustion Equipment: NOx Emission and Operational Performance, Energies 15(5)1706, https://www.mdpi.com/1996-1073/15/5/1706

[97] Öberg, S., M. Odenberger, and F. Johnsson, 2022, Exploring the Competitiveness of Hydrogen-fueled Gas Turbines in Future Energy Systems, International Journal of Hydrogen Energy 47(1): 624-644, https://doi.org/10.1016/j.ijhydene.2021.10.035

[98] Basinger, E., B. Hickey, and V. McDonell, 2023, A compilation of operability and emissions performance of residential water heaters operated on blends of natural gas and hydrogen including consideration for reporting bases, International Journal of Hydrogen Energy 48(51):19733-19749, https://doi.org/10.1016/j.ijhydene.2023.02.018

[99] Yue, M., H. Lambert, E. Pahon, R. Roche, S. Jemei, and D. Hissel, 2021, Hydrogen energy systems: A critical review of technologies, applications, trends and challenges, Renewable and Sustainable Energy Reviews 146: 111180, https://doi.org/10.1016/j.rser.2021.111180

in transportation such as harbor crafts.[100] Fuel cells produce and emit water vapor and heat as emissions.

5.1.2 Internal Combustion Engines

Hydrogen internal combustion engines (H_2ICE) for stationary use are a developing technology that operate similarly to fossil fuel internal combustion engines (ICE). Compared to fossil fuel combustion engines, hydrogen combustion engines are designed to account for the unique combustive properties of hydrogen. Hydrogen combustion engines have the potential to replace fossil fuel combustion engines in many different hard to electrify industrial sectors.

First generation H_2ICE technology includes port-injection spark-ignition where the fuel is injected during the intake stroke. This technology will likely be readily available on the market by 2025. Existing fossil fuel ICEs can be retrofitted using this technology to combust higher percentages of hydrogen fuel. Between 2025 and 2030, market introduction for second generation direct-injection spark-ignition H_2ICEs is anticipated. This technology will directly inject fuel during the early compression stroke to allow time for mixing. Also anticipated between 2025 and 2030 is the release of the second plus generation of H_2ICE technology, high pressure direct injection. This technology injects fuel near the top center of the unit at a high pressure (100-600 bar).[101]

Jenbacher is a manufacturer that currently offers hydrogen combustion technology. Jenbacher states that all their new engines are “Ready for H2”, meaning that they can run on fuel blends of up to 25% hydrogen. They also offer engines able to operate on pure hydrogen, referred to as their “Type 4” engines. Their stated portfolio goals include operation of Type 2, Type 3, Type 6, and Type 9 engines by 2025 or later.[102] Caterpillar (CAT) offers gas generator sets, including the G3500H series, the CG132B, and the Cat CG170B, capable of operating on fuel blends of up to 25% hydrogen ranging from 600

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[100] CARB, 2021b, Public Hearing to Consider the Proposed Amendments to the Commercial Harbor Craft Regulation, Appendix E Technical Support Document and Assessment of Marine Emission Control Strategies, Zero-Emission, and Advanced Technologies for Commercial Harbor Craft, September 21, https://ww2.arb.ca.gov/rulemaking/2021/chc2021

[101] DOE, 2023a, Overview of Hydrogen Internal Combustion Engine (H2ICE) Technologies, H2IQ Hour Webinar, slides available online at https://www.energy.gov/sites/default/files/2023-07/h2iqhour-02222023-2.pdf

[102] Jenbacher, 2024, Energy Solutions – Hydrogen Power Plants, industry webpage, https://www.jenbacher.com/en/energy-solutions/energy-sources/hydrogen

kW to 2.5 MW units. The Cat G3516 gas generator set, with a maximum rating of 1250 kW, is able to utilize pure hydrogen fuels.[103] Currently, hydrogen combustion engine thermodynamic efficiency is around 20% to 25%.[104]

5.1.3 Stationary External Combustion Sources

Boilers, heaters, and ovens are examples of external combustion units with the potential to combust hydrogen albeit sometimes with modifications.[105] External hydrogen combustion sources have the potential to produce NO_x emissions and may require burner modifications and aftertreatment to control these emissions, although several burner types show reductions in NO_x formation when burning hydrogen blends.[106] Babcock and Wilcox offers a commercially available steam boiler that can operate on 100% hydrogen fuel, called BrightGen. This unit has the ability to switch between hydrogen and natural gas combustion as needed.[107]

5.1.4 Turbines

Hydrogen-fueled gas turbines are a developing technology that have the potential to replace natural gas-fueled gas turbines in the power generation sector and hard to electrify industrial sector. The technology will likely be very similar to natural gas-fueled gas turbines, but design specifications will need to account for higher flame speeds and

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[103] Caterpillar, 2023, Caterpillar Expands Range of Hydrogen-Fueled Power Solutions to Include Generator Sets and Retrofit Kits from 600 kW to 2.5 MW, industry press release, October, https://www.cat.com/en_US/news/engine-press-releases/caterpillar-expands-lineup-of-hydrogen-fueled-power-solutions-with-generator-sets-and-upgrade-kits.html

[104] Yue, M., et al., 2021, Hydrogen energy systems, Ibid.

[105] Elavarasan, E., S. Sivaraj, M. Y. Tamilselvan, V. Vijayaragavan, P. Vignesh, 2018, Hydrogen Fired Steam Boilers, International Journal of Engineering Research and Technology Special Issue, ICITMSEE Conference Proceedings, https://www.ijert.org/research/hydrogen-fired-steam-boilers-IJERTCONV6IS10016.pdf

[106] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL). 2016. Effect of Variable Fuel Composition on Emissions and Lean Blowoff Stability Limits. California Energy Commission. Publication number: CEC-500-2017-026. Final Project Report, Effect of Variable Fuel Composition on Emissions and Lean Blowoff Stability Performance (ca.gov)

[107] Babcock and Wilcox, 2023, BrightGen™ Hydrogen Combustion Technology: Utilizing non-carbon-based fuels for steam production, Industry Brochure, https://www.babcock.com/assets/PDF-Downloads/PS-599-BrightGen-Hydrogen-Combustion-Brochure.pdf

the wider range of flammability of hydrogen as compared to natural gas. Some existing heavy-duty equipment can combust anywhere from 5% fuel blends to 100% hydrogen. Manufacturer upgrades are available for some larger units to allow them to increase the percentage of hydrogen fuel that they are able to combust. Wet low-emission (WLE), dry low-emission (DLE), or dry low- NO_x (DLN) combustors are often utilized in heavy-duty turbines capable of combusting hydrogen fuel blends, such as Aeroderivative and industrial units to reduce the formation of some air pollutants. Wet low-emission technology utilizes water or steam to decrease the temperature of combustion. DLN and DLE technology reduces air pollutant emissions from the exhaust without the use of water or steam.[108]

Mitsubishi, Siemens, and GE are the three largest global turbine manufacturers and have each outlined plans for establishing pure hydrogen firing turbine technology for power generation. Siemens and GE have published goals to develop heavy-duty DLE and DLN turbines with the ability to combust pure hydrogen by 2030, and Mitsubishi set a goal to develop DLN turbines with the ability to combust 100% hydrogen fuel by 2025.[109]

Manufacturers are advancing technology to enable combustion engines to function entirely on hydrogen, targeting applications in power generation, industrial heating, and transportation. Currently, smaller turbines such as Siemens' SGT-A35, with a capacity of 30-40 MW, and the SGT-400, rated at 10-15 MW, already operate on 100% hydrogen.[110] However, larger turbine models still require technological enhancements to sustain full hydrogen operation and maintain low air pollution levels. The leading manufacturers in this sector are Siemens, General Electric (GE), and Mitsubishi.

Both Siemens and GE are working towards developing large, advanced turbines that can achieve 100% hydrogen combustion by 2030. Mitsubishi aims to reach this capability by 2025 and has already made progress; in 2018, their proprietary burner technology in Mitsubishi Hitachi Power Systems achieved a 10% reduction in CO_2 emissions with a 30% hydrogen blend.[111,112]

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[108] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units, Ibid.
[109] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units, Ibid.
[110] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units Ibid.
[111] EPA, 2023a, Hydrogen in Combustion Turbine Electric Generating Units Ibid.
[112] Mitsubishi Power, 2018, MHPS Successfully Tests Large-scale High-efficiency Gas Turbine Fueled by 30% Hydrogen Mix -- Will Contribute to Reducing CO2 Emissions during Power Generation, industry news release, January 19, https://power.mhi.com/news/20180119.html

GE categorizes its turbines into four groups based on their hydrogen handling capacity: Aeroderivative, B/E-Class, F-Class, and HA-Class. Per GE Vernova, gas turbines are inherently fuel flexible and can be configured to use clean renewable hydrogen as new units or units upgraded after service using natural gas. Aeroderivative, B/E-Class and F-Class can currently handle up to 100% hydrogen and the HA-Class can currently handle 50% and is expected to be able to handle 100% hydrogen in the future.[113]

Siemens has also demonstrated the adaptability of their turbines to hydrogen: the Aeroderivative SGT-A35 turbines can operate on 100% hydrogen using special burners.[114] More recently, in 2023, Siemens announced that their SGT-400 unit, with a 10-15 MW capacity, successfully ran on 100% hydrogen.[115] Siemens' HL-class turbines are engineered to manage up to 50% hydrogen combustion.[116] Finally, Siemens has announced the "Zero Emission Hydrogen Turbine Center" which is a demonstration plant in Sweden to showcase a flexible and sustainable energy system connecting gas turbines with hydrogen, renewable electricity and energy storage.[117]

Few manufacturers have published data regarding NOx emissions from the combustion of hydrogen in their units. In gas turbines, largely due to the high flame speed of hydrogen, low NOx use of hydrogen in combustion units without the incorporation of water injection is a continued challenge for manufacturers. Lean pre-mixed technology is a key for dry low NOx hydrogen combustion designs.[118]

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[113] General Electric Vernova, Hydrogen-Fueled Gas Turbines | GE Vernova

[114] Siemens Energy, 2023a, SGT-A35 gas turbine, industry webpage, SGT-A35

[115] Hydrogeninsight, 2023, Siemens Energy burns 100% hydrogen in industrial gas turbine in energy-storage pilot, online energy transition publication, October 16,https://www.hydrogeninsight.com/power/correction-siemens-energy-burns-100-hydrogen-in-industrial-gas-turbine-in-energy-storage-pilot/2-1-1535850

[116] Siemens Energy, 2023b, SGT5-9000HL gas turbine, industry webpage, https://www.siemens-energy.com/global/en/offerings/power-generation/gas-turbines/sgt5-9000hl.html

[117] Siemens Energy, 2024, Zero Emission Hydrogen Turbine Center, https://www.siemens-energy.com/global/en/home/products-services/solutions-usecase/hydrogen/zehtc.html

[118] Webb, B.M., J. Harper, R. Steele, D.R. Noble, B. Emerson, D. Wu, and T. Lieuwen, 2023, Second Edition: Assessment of Current Capabilities and Near-Term Availability of Hydrogen-Fired Gas Turbines Considering a Low-Carbon Future, proceedings paper from ASME Turbo Expo 2023, https://doi.org/10.1115/GT2023-103962

With the bulk of the hydrogen combustion technology still in development, the availability of emissions data is sparse. However, of the published manufacturer's emissions data reviewed, the potential uncontrolled NOx emissions ranged from less than 10 ppmv for the GE 7E turbine capable of combusting up to 60% hydrogen[119] (baseload condition, dry), to 25 ppmv for the Ansaldo GT36 turbine capable of combusting up to 70% hydrogen (manufacturer specification sheet indicates 25 ppmv emissions in dry gas mode with option down to 15 ppm but does not specify what the "option" is).[120] Siemens has shared that NOx emissions for their SGT-600 (up to 60% hydrogen fuel), SGT-700 (capable of combusting up to 55% hydrogen fuel), SGT-800 (capable of combusting up to 50% hydrogen fuel), and their SGT-750 (capable of combusting up to 40% hydrogen fuel) turbines are ≤ 25 ppmv.[121] Siemen's Aeroderivative SGT-A35 turbine can burn up to 100% hydrogen fuel and emits less than 15 ppmv uncontrolled.[122] Siemens has published that NOx emissions from their HL-class, including the SGT5-9000HL and the SGT6-9000HL, can be as low as 2 ppm with SCR controls.[123] These anticipated uncontrolled and controlled NOx emission values are similar to those currently permitted limits for this type of equipment.

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[119] McDonell, V., 2023a, Gas Turbine and Industrial Combustion NOx Emissions and Hydrogen, UC Irvine Combustion Laboratory presentation July 14

[120] Ansaldo | energia, 2022, The Gas Turbine: GT36 – the superior value, industry brochure, https://www.ansaldoenergia.com/fileadmin/Brochure/AnsaldoEnergia-GasTurbine-GT36-20220930.pdf

[121] Siemens Energy, 2020, Hydrogen Combustion in Siemens Gas Turbines, industry presentation, http://cnr-cme.ro/wp-content/uploads/2020/08/Hydrogen-Combustion-in-Gas-Turbines-.pdf#:~:text=All%20newly%20built%20Siemens%20gas%20turbine%20types%20capable,with%20standard%20natural%20gas%20turbines%20%28new%20unit%20applications%29

[122] Siemens Energy, 2023a, SGT-A35 gas turbine, Ibid.

[123] Siemens Energy, 2023b, SGT5-9000HL, Ibid.

Table 9
Heavy Duty Gas Turbine Hydrogen Capabilities[124]

Company	Type	Notes	TIT °C [ºF] or Class	H_2 % (Vol)
Mitsubishi Hitachi Power Systems	Diffusion	N_2 Dilution, Water/Steam Injection	1200-1400 [2192-2552]	up to 100
	Pre-Mix (DLN)	Dry	1600 [2912]	up to 30
	Multi-Cluster	Dry	1650 [3002]	up to 30
General Electric	SN	Single Nozzle (Standard)	B,E Class	up to 100
	MNQC	Multi-Nozzle Quiet Combustor w/N_2 or Steam	E,F Class	up to 100
	DLN 1	Dry	B,E Class	up to 33
	DLN 2.6+	Dry	F,H Class	up to 20
	DLN 2.6e	Dry	E Class	up to 50
Siemens	DLE	Dry	E Class	up to 30
	DLE	Dry	F Class	up to 30
	DLE	Dry	H Class	up to 30
	ACE	Dry	HL Class	up to 50
Ansaldo	Sequential	GT26	F Class	up to 30
	Sequential	GT36	H Class	up to 50
PSM	LEC-III™	DLE	B,E Class	up to 50

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[124] Webb, B.M. et al., 2023, Second Edition: Assessment of Current Capabilities, Ibid.

Table 9
Heavy Duty Gas Turbine Hydrogen Capabilities[124]

Company	Type	Notes	TIT °C [ºF] or Class	H_2 % (Vol)
	Current Flamesheet™	DLE	Frame 5, 6B, 7E, 9E, 7F, 9F, 501F, 701F	up to 60
Baker Hughes	DLN	Frame 6/7/9	Frame 6/7/9	up to 32
	Diffusion	Frame 6/7/9	Frame 6/7/9	up to 100

5.2 HYDROGEN USE IN MOBILITY

The Mobility end-user sector is comprised of on-road and off-road commercial and industrial vehicles in various industries. This study evaluated the potential for NO_x emissions and/or reductions due to the displacement of fossil fuels by hydrogen demand in the following mobility sub-sectors: heavy-duty trucks, medium-duty vehicles, buses, agriculture, construction & mining, cargo handling equipment, ground support equipment, and commercial harbor craft.

On-Road Vehicles: Heavy-duty trucks, medium-duty vehicles, and buses are all on-road vehicles evaluated in this study. There is regulatory pressure for on-road vehicles to transition to zero-emission vehicles. Commercial availability of medium- and heavy-duty hydrogen fuel cell vehicles is still evolving. CARB has noted that heavy-duty vehicles are the largest source of NO_x within California. Heavy-duty vehicles contribute over 25% of the state's emissions of diesel particulate matter.[125] However, technological advancements are continuing on-pace with DOE estimations.

Agriculture: The agricultural industry utilizes many off-road mobile sources in their operations, such as tractors, harvesters, and bale wagons. A 2021 presentation from the DOE outlined some of the benefits and challenges of hydrogen fuel cells in agricultural applications. The benefits included zero emissions, 10-15 minute refueling time, lighter powertrain than batteries, and reduced noise. Challenges included the cost of the drivetrain being more expensive than a diesel powertrain, low volumetric power density, higher weight of required volume of liquid H_2 compared to diesel, cooling which would require a radiator with much larger heat rejection capacity, reduced vehicle lifetime due

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[125] CARB, 2020, Facts about the Low NOx Heavy-Duty Omnibus Regulation, Ibid.

to higher operating temperatures, and lack of infrastructure in remote areas where farms may be located. As of 2021, the DOE recommended more research and development into effective utilization of hydrogen fuel cells in agricultural equipment.[126]

More research has since been completed, and in February of 2023, Fendt introduced a hydrogen fuel tractor prototype that will be tested on farms later during the year.[127] Another manufacturer, Kubota, has published plans to roll out their first hydrogen fuel cell tractor in 2025.[128] Fendt planned to complete their prototype in 2023 and is undergoing testing and use as of 2024.[129] [130]This study assumes that agricultural equipment will transition to hydrogen fuel cells when converting to the use of hydrogen as fuel.

Construction and Mining: The construction and mining industries utilize various off-road mobile combustion sources in their operations including, but not limited to, cranes, tractors, graders, pavers, rollers, forklifts, loaders, and backhoes. A 2020 report published by Deloitte and Ballard states that hydrogen fuel cell mining equipment is still in the "prototype" phase meaning that companies are still developing the technology and equipment has not been demonstrated or launched commercially.[131] In 2022, Cummins and Komatsu announced a partnership for the development of hydrogen fuel cell equipment for mining operations. They planned to begin by focusing their efforts on large mining truck technology. The press release shared that hydrogen fuel cell technology may

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[126] CNHi Industrial, 2021, Technology Challenges for Hydrogen Fuel Cells in Agricultural Applications, presentation at DOE Hydrogen Workshop September 22-24, https://www.energy.gov/sites/default/files/2021-12/922-11-mission-innovation-CNH.pdf

[127] Fendt, 2023, Fendt shows first hydrogen tractor at German Hydrogen Summit, industry press release February 27, https://www.fendt.com/int/fendt-shows-first-hydrogen-tractor-at-german-hydrogen-summit

[128] Nikkei Asia, 2022, Kubota to roll out first fuel cell tractor in 2025, eyeing U.S. and Europe, June 2, https://asia.nikkei.com/Spotlight/Environment/Climate-Change/Kubota-to-roll-out-first-fuel-cell-tractor-in-2025-eyeing-U.S.-and-Europe

[129] Le Comptoir Des Eleveurs, 2024, Fendt hydrogen tractor in use, H2Agrar project, Lower Saxony; Germany, January 22, 2024, https://www.comptoir-des-eleveurs.com/vods/7fc6c566-27b9-ee11-bea2-000d3aaa8069/fendt-hydrogen-tractor-in-use-h2agrar-project-lower-saxony-germany

[130] FuelCellWorks, 2024, Fendt's Helios Hydrogen Tractor Undergoes Extensive Testing in Germany, March 11, 2024, https://fuelcellsworks.com/subscribers/fendts-helios-hydrogen-tractor-undergoes-extensive-testing-in-germany/

[131] Deloitte and Ballard, 2020, Fueling the Future of Mobility, white paper, https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/finance/deloitte-cn-fueling-the-future-of-mobility-en-200101.pdf

be the preferred ZEV for the mining industry in remote areas where there is no available grid power. They also noted that large hydrogen fuel cell vehicles can quickly refuel, like diesel vehicles, and that they provide higher density of power.[132]

Cranes may be used in construction and mining, and a study was published in 2019 by Corral-Vega et al. evaluating fuel cell/supercapacitor powered cranes. The study found that use of a hydrogen fuel cell with a supercapacitor in a crane was technically viable. The evaluated technology was determined to be more energy-efficient and more environmentally beneficial than a standard diesel powertrain.[133] Volvo Construction Equipment has set their own goals for the development of ZEV technology. In 2022 they began testing the world's first prototype hydrogen fuel cell articulated hauler, the Volvo HX04. The HX04 re-fuels in about 7.5 minutes with 12 kg of hydrogen. This provides the equipment with enough fuel to operate for about 12 hours.[134]

Forklifts: Many commercial and industrial industry sectors utilize forklifts in their operations. The DOE shared that as of November 2018 there were already more than 20,000 hydrogen fuel cell forklifts in operation across the US.[135] Toyota, a manufacturer of PEM hydrogen fuel cell forklifts, notes that hydrogen fuel cell forklifts can be refilled quickly and that they don't require as much maintenance as a lead-acid battery electric forklift.[136]

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[132] Electrive, 2022, Cummins & Komatsu team up on h2 fuel cell trucks for mining operations, industry media website, https://www.electrive.com/2022/07/04/cummins-komatsu-team-up-on-h2-fuel-cell-trucks-for-mining-operations/

[133] Corral-Vega, P.J., P. García-Triviño, and L.M. Fernández-Ramírez, 2019, Design, modelling, control and techno-economic evaluation of a fuel cell/supercapacitors powered container crane, Energy 186: 115863, https://doi.org/10.1016/j.energy.2019.115863

[134] Volvo Construction Equipment Global, 2022, Volvo CE starts testing of the world's first prototype hydrogen articulated hauler, industry press release, June 13, https://www.volvoce.com/global/en/news-and-events/news-and-stories/2022/volvo-ce-starts-testing-of-the-worlds-first-prototype-hydrogen-articulated-hauler/

[135] DOE, 2018, Fact of the Month November 2018: There Are Now More Than 20,000 Hydrogen Fuel Cell Forklifts in Use Across the United States, https://www.energy.gov/eere/fuelcells/fact-month-november-2018-there-are-now-more-20000-hydrogen-fuel-cell-forklifts-use

[136] Toyota, 2023, Hydrogen Fuel Cell Forklifts: An Alternative Energy Solution, industry blog, March 28, https://www.toyotaforklift.com/resource-library/blog/energy-solutions/hydrogen-fuel-cell-forklifts-an-alternative-energy-solution

Cargo Handling Equipment: CARB has proposed to begin the transition to zero-emission vehicles for cargo handling equipment in 2026.[137] The San Pedro Bay Ports Complex issued an initial Clean Air Action Plan (CAAP)[138] in 2017 outlining their goal of achieving 100% ZEVs for cargo handling equipment by 2030, earlier than California's goal of zero emissions from mobile sources by 2035 established in EO N-79-20. The CAAP requires that a feasibility assessment for zero-emission and near zero-emission cargo-handling equipment be completed every three years. The most recent update was completed in 2021 and published in July of 2022. The assessment included an evaluation of zero emission hydrogen fuel cell electric vehicles and outlines that Toyota Motor Company, Cummins, and Hyster-Yale are both in the development stage for fuel cell yard trucks, also referred to as terminal tractors. In 2020, Hyster-Yale Group entered a partnership with Capacity Trucks to develop hydrogen yard trucks.[139] Conductix Wampfler is in the concept design stage for a hydrogen fuel cell-powered RTG crane.[140] A study completed by Li et al. in 2019 evaluated the feasibility of a fuel cell supercapacitor excavator. They found that NASTA construction equipment and Volvo construction equipment are developing prototypes for this equipment. Their economic evaluation ultimately found that fuel cell hybrid electric vehicles (FCHE) fuel economy is primarily influenced by the size of the fuel cell stack. They found that as costs decrease, the FCHEs will become commercially viable and attractive.[141]

Ground Support Equipment: Ground support equipment encompasses the off-road equipment, or equipment that was designed for on-road use but not licensed for on-road use, that supports the operations at airports. This equipment includes, but is not limited

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[137] CARB, 2022c, 2022 State Strategy for the State Implementation Plan, Ibid.
[138] San Pedro Bay Ports Clean Air Action Plan, Clean Air Action Plan - San Pedro Bay Ports Clean Air Action Plan
[139] Hyster, 2020, Hyster-Yale Group and Capacity Trucks Enter Partnership to Jointly Develop Electric, Hydrogen, and Automation-Ready Terminal Tractors, Press Release, December 14 https://www.hyster.com/en-us/north-america/why-hyster/press-releases/2020/hyster-yale-group-and-capacity-trucks-enter-partnership-to-jointly-develop-electric-hydrogen-and-automation-ready-terminal-tractors/
[140] Tetra Tech/Gladstein, Neandross & Associates, 2022, 2021 Update Feasibility Assessment for Cargo-Handling Equipment, report for San Pedro Bay Ports Clean Air Action Plan, https://cleanairactionplan.org/strategies/cargo-handling-equipment/
[141] Li, T., L. Huang, and H. Liu, 2019, Energy management and economic analysis for a fuel cell supercapacitor excavator, Energy 172: 840-851, https://doi.org/10.1016/j.energy.2019.02.016

to, cargo loaders, cargo tractors, forklifts, fuel trucks, ground power units, maintenance trucks, and service trucks.

In 2020, the DOE developed a presentation regarding hydrogen use at airports. Their presentation outlined that the regulatory pressures, sustainability goals, the cost of regulatory compliance, the fact that airports are a standalone ecosystem, and increasing demand for air cargo are among the drivers for use of hydrogen in ground support equipment. The transition of these vehicles to hydrogen would potentially decrease the maintenance needs as compared to diesel vehicles. Hydrogen fuel cell ramp crew vans, ramp management vehicles, and crew shuttle buses were listed as, "Under Consideration," while loaders, tractors, GPU, and cargo transporters were listed as in, "Current Trials & Product Development."[142]

The DOE along with FedEx and Charlatte completed a test of the world's first fuel cell airport ground support equipment fleet of 15 vehicles at the Memphis airport during fiscal year 2018. Results of the test at the Memphis airport demonstrated that the fuel cell-powered tugs were able to pull 50,000 pounds; they were available 90.5% of the time from February to October 2017; they achieved 304 shifts before running out of fuel and lasted 218 hours between failures on average. These statistics exceeded their target metrics in each category. Once the test project was finished in Memphis, two of the baggage tractors were relocated to Albany airport for further testing. This allowed a test of the equipment in winter weather conditions. The vehicles were re-commissioned in Albany in February of 2019. The vehicles were successfully operated in conditions ranging from 5 to 91 degrees Fahrenheit.[143]

Commercial Harbor Craft: Commercial harbor craft refers to private, commercial, government, or military marine vessels that do not otherwise meet the definition of ocean-going vessels or recreational vehicles. Commercial harbor crafts include, but are not

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[142] Plug Power, 2020, Fuel Cells for Ground Support Equipment, DOE H2 @ Airports 2020 workshop presentation, https://www.energy.gov/sites/default/files/2020/12/f81/hfto-h2-airports-workshop-2020-blanchard.pdf

[143] Plug Power, 2019, Plug Power to Showcase Results from Fuel Cell-Powered Ground Support Equipment program at Press Event, Highlighting Successful Collaboration with FedEx, Charlatte, Albany International Airport, and the US Department of Energy, press release August 15, https://www.globenewswire.com/news-release/2019/08/15/1902369/0/en/Plug-Power-to-Showcase-Results-from-Fuel-Cell-Powered-Ground-Support-Equipment-program-at-Press-Event-Highlighting-Successful-Collaboration-with-FedEx-Charlatte-Albany-Internationa.html

limited to, passenger ferries, excursion vessels, tugboats, fishing vessels, research vessels, emergency response harbor craft, and barge vessels. Given the geographic region of this study, it is important to evaluate the feasibility of commercial harbor craft technology to operate on hydrogen fuel, as the region includes the San Pedro Port Complex made up of the Port of Los Angeles and the Port of Long Beach where many commercial harbor crafts operate.

CARB funded a project called the Switch Maritime Seachange to demonstrate a hydrogen fuel cell in a ferry in Washington State. The Seachange then underwent testing in San Francisco Bay. The Switch Sea Exchange is another passenger ferry run operated by Switch Maritime that has the capability to operate on a hydrogen fuel cell. The Sandia National Laboratory conducted their own feasibility study in 2016 comparing a battery-electric propulsion system and a hydrogen fuel cell propulsion system in a high-speed, long-distance ferry. They ultimately found that the hydrogen fuel cell propulsion system provided three times the energy density of the battery electric propulsion system, at 1.71 Mega Joules per kilogram (MJ/kg).[144]

A study completed by Bryan Lee with CALSTART in 2023 outlines the Hydrogen Zero Emission Tug (HyZET) project for the development of a liquid hydrogen tugboat. The study found that a tugboat powered by a hydrogen fuel cell can meet the operating requirements in the San Pedro Port Complex.[145]

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[144] CARB, 2021b, Public - Commercial Harbor Craft Regulation, Ibid.

[145] Lee, B., 2023, Decarbonizing Harbor Craft: The Hydrogen Zero Emission Tug Project, publication from the 36th International Electric Vehicle Symposium and Exhibition (EVS36) Sacramento, California, USA, June 11-14, 2023, available at http://evs36.com/wp-content/uploads/finalpapers/FinalPaper_Lee_Bryan.pdf#:~:text=To%20advance%20the%20commercialization%20of%20zero%20emission%20harbor,,cell%20tugboat%20and%20to%20analyze%20its%20commercial%20viability

6.0 NO$_X$ MINIMIZATION OPPORTUNITIES

There are several technologies that can minimize the formation of NOx emissions from the combustion of hydrogen and reduce NOx emissions that are formed. These minimization opportunities include equipment design considerations and post-combustion treatment of exhaust gases.

Emissions minimization methodologies can be implemented during equipment design including adjustment of air to fuel ratio, flame temperature, exhaust gas recirculation, thermal efficiency, and residence time. Post combustion technologies to reduce NOx once formed include existing technologies such as SCR, SNCR, and NSCR, as well as emerging technologies including electron beam irradiation and electrochemical reduction.

6.1 EQUIPMENT DESIGN

In theory, emissions of NOx may be perceived as more likely to increase as hydrogen in fuel blends increases, due to the higher flame speed (indicating higher reaction rate) and higher stoichiometric adiabatic flame temperature of hydrogen.[146] However, as noted in the scientific literature, NOx formation has the potential to increase or decrease as the percentage of hydrogen in the fuel increases depending on the burner technology utilized.[147] ETN Global describes how the higher adiabatic flame temperature of hydrogen may result in higher NOx emissions without additional design and control measures. However, literature also notes that NOx from hydrogen combustion can be controlled with selective catalytic reduction (SCR) to meet EPA levels.[148] Additional studies note that NOx emissions may remain constant or decrease while increasing the percentage of

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[146] Guarco, J, B. Langstine, M. Turner, 2021, Practical Considerations for Firing Hydrogen versus Natural Gas, Combustion Engineering Association article, https://cea.org.uk/wp-content/uploads/2021/06/Zeeco-Hydrogen-Article.pdf

[147] Leicher, J., T. Nowakowski, A. Giese, and K. Görner, 2017, Power-to-gas and the consequences: impact of higher hydrogen concentrations in natural gas on industrial combustion processes, Energy Procedia 120: August, 96-103, https://doi.org/10.1016/j.egypro.2017.07.157

[148] National Energy Technology Laboratory, 2022, Ibid.

hydrogen in fuel depending on the combustion burner technology used.[149] [150] A decrease in NOx emissions when combusting hydrogen is more likely in lean or ultra lean burn technology. The table below synthesizes findings from several studies to outline the emissions characteristics and advancements in burner technology.

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[149] Breer, B., H. Priya Rajagopalan, C. Godbold, H. Johnson II, B. Emerson, V. Acharya, W. Sun, D. Noble, T. Lieuwen, 2022, NOx Production from Hydrogen-Methane Blends, Eastern States Section of the Combustion Institute, March 6

[150] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL), 2016, Ibid.

Comparison of Burner Technologies and Their NOx Emission Reduction Capabilities

The table synthesizes findings from several studies to outline the emissions characteristics and advancements in burner technology:

Equipment Type	Key Findings
Grouped Burners	
Low-Swirl Burner (LSB), Surface-Stabilized Combustion Burner (SSCB), Micro-Turbine Combustor (MTC) – Capstone C65, Oxygen Burner, High Speed Jet Burner (HSJ), Turbine Combustor GT333 – FlexEnergy, Radiant Tube (RT), Infrared Burner (IRB), Slot Burner (SB)	Inconsistencies in NOx production across various burner technologies were noted. Five burners exhibited increased NOx emissions with higher hydrogen content, attributed to less effective Exhaust Gas Recirculation (EGR). Conversely, four burners demonstrated a decrease in NOx emissions, potentially due to enhanced radiative heat losses facilitated by increased surface area and high emissivity materials. *Authors: California Energy Commission and UCI Combustion Laboratory, 2017*
Individual Burner Studies	
Reciprocating Internal Combustion Engine	Notable increase in NOx emissions when burning hydrogen compared to diesel. However, increasing the air-fuel (lambda) ratio led to a reduction in NOx emissions to zero. *Authors: Roiser et al., 2022*
Bunsen Burner	Significant decrease in mass-normalized NOx ppm emissions as the mole fraction of hydrogen in the fuel increased, primarily due to reduced flame temperatures from increased equivalence ratio lambda (λ). Researchers noted that there is no chemical kinetic reason for H2 flames to produce more NOx than natural gas flames. *Authors: Giacomazzi et al., 2023*
Turbine (1)	NOx volume levels remained relatively constant at hydrogen blends of 20% compared to 100% natural gas, approximately 15 ppm (15% O2). *Authors: Georgia Power McDonough-Atkinson Plant, Mitsubishi, EPRI, 2023*
Turbine (2)	A 24% increase in mass emissions of NOx as the percentage of hydrogen in the fuel rose, with co-firing ranging from 5-44% by volume. *Authors: New York Power Authority's Brentwood site, GE, EPRI, 2023*
Reciprocating Engine	Compliance with existing NOx limits maintained when co-firing up to 25% hydrogen by volume. *Authors: A.J. Mihm Power Plant in Michigan, 2022*
Gas Turbine	Single-digit NOx ppmv emissions achieved at dry, baseload conditions with co-firing 60% hydrogen on a retrofitted turbine. *Authors: Daesan Korea retrofitted GE 7E gas turbine, 2023*

6.1.1 Air to Fuel Ratio and Flame Temperature

This section explores the equipment design factors that impact the formation of NOx from hydrogen combustion and how pure hydrogen combustion equipment may be designed to minimize NOx formation. Hydrogen can combust at a wide range of air to fuel ratios. A higher air to fuel ratio means that there is more air with respect to the amount of fuel. "Lean" operation is when there is an excess of air with respect to fuel. Increasing the air to fuel ratio for hydrogen combustion will decrease the combustion temperature, and therefore, decrease the formation of thermal NOx emissions. A higher flame temperature generally contributes to higher formation of NOx emissions from combustion which is due primarily to the thermal NOx mechanism.[151] [152] Due to the higher flame temperature of hydrogen, NOx emissions have the potential to increase when combusting hydrogen fuel as compared to fossil fuels. However, the scientific literature also represents that designing equipment to operate at lean conditions and/or use EGR or pre-mixing or use porous materials with a higher emissivity have the potential to reduce NOx emissions when combusting hydrogen as compared to fossil fuels.[153,154,155] Current existing technology demonstrates variability in hydrogen flame temperature and subsequent NOx formation when combusting hydrogen. However, variability will be minimized with the continued development of technology designed to combust pure hydrogen fuels while achieving the appropriate flame temperature for minimizing NOx emissions.

Interactions between hydrogen fuel addition and combustion properties are complex, including both chemical kinetics and physical effects. Roughly three times the volume of hydrogen is required to generate the same power output as natural gas. However, hydrogen only requires 25% of the air (by volume) required by natural gas to consume a given volume of fuel. This lower air requirement may contribute to potential lowering of

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[151] Giacomazzi, E., G. Troiani, A. Di Nardo, G. Calchetti, D. Cecere, G. Messina, S. Carpenella,2023, Hydrogen Combustion: Features and Barriers to its Exploitation in the Energy Transition, Energies 16(20): 7174, https://doi.org/10.3390/en16207174

[152] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL), 2016, Ibid.

[153] Lowe, C., N. Brancaccio, D. Batten, C. Leung, and D. Waibel, 2011, Technology assessment of hydrogen firing of process heaters, Energy Procedia 4: 1058-1065, https://doi.org/10.1016/j.egypro.2011.01.155

[154] Giacomazzi, E., et al., 2023, Hydrogen Combustion, Ibid.

[155] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL), 2016, Ibid.

the flame temperature for hydrogen combustion by decreasing mass flow through the combustor, and then utilizing EGR to increase the mass flow of air which increases convective heat transfer. Decreasing the equivalence ratio by contributing excess air, while increasing the mole fraction of hydrogen in the fuel, can allow flame propagation speed to stay constant while lowering the adiabatic flame temperature at a constant power output. This process has experimentally demonstrated a decrease in NOx emissions as the hydrogen mole fraction exceeded 45% to 50% of the fuel when testing hydrogen combustion on a Bunsen burner.[156] For pre-mixed flames, this allows for leaner operation. However, for non-premixed flames where the heat input is not maintained, the BTU input may decrease as hydrogen increases in the fuel due to the Wobbe Index. This impacts the process, power output, and flame temperature for the non-premixed combustion system.[157]

6.1.2 Flame Type

Combustion systems generally utilize two main types of "flames," premixed or non-premixed. This mixing refers to the mixing of fuel and air. The differences in these two types of flames are important when it comes to establishing local flame temperatures. As shown in the following figure, a premixed flame separates reactants from products. The local fuel to air ratio of the reactants controls the peak temperatures in the flame and therefore, can be used to control NOx formation rates. In the non-premixed case, the flame divides fuel and products from air and products. As a result, the preferential fuel to air ratio that combustion occurs at will be the stoichiometric fuel to air ratio which results in nearly the highest possible flame temperatures for the conditions at hand. By operating with excess air (high air to fuel ratio, leaner operation), premixed flames can attain low NOx emission levels. What is relevant for success in premixed flames is the ability to completely mix the fuel and air prior to combustion. Regions with stoichiometric mixtures will create a "hot spot" that can contribute to higher NOx levels. For the same local fuel to air ratio, hydrogen flames have higher temperatures than natural gas flames. However, by controlling the local fuel to air ratio, the temperature of the hydrogen flame can be set at the same temperature as natural gas. The enhanced stability of the hydrogen flame due to its unique combustive properties allows a stable reaction at a far lower fuel to air

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[156] Giacomazzi, E., et al., 2023, Hydrogen Combustion, Ibid

[157] McDonell, V., 2023b, personal communication, Ibid.

ratio than for natural gas. Therefore, hydrogen flames can operate at substantially lower combustion temperatures than natural gas.

Systems that typically use non-premixed flames include older generation gas turbine technology, diesel fueled reciprocating engines, and older boilers. These technologies were developed before an emphasis on minimizing air pollution was in place (and are still used in areas with minimal air pollutant regulations). Equipment utilizing non-premixed flames, such as these examples of generally older technology, will likely form higher NOx emissions from the combustion of hydrogen when compared to fossil fuels as they combust more closely to the stoichiometric fuel to air ratio.

Systems that utilize a pre-mixed flame may include low emission gas turbines and low NOx boilers. The pre-mixed flame in this type of equipment allows for control of the fuel to air ratio, which allows for reduction in flame temperature and reduced NOx formation. A partially pre-mixed burner may reduce NOx formation as hydrogen in the fuel increases due to their enhanced heat transfer, however, they generally have similar NOx emissions from hydrogen combustion as they would from natural gas combustion.

For gas turbines, micromixers have demonstrated the ability to further reduce NOx formation beyond standard premixing methods.[158] Combustor flow splits and piloting are additional mechanisms with the potential to lower NOx emissions.[159]

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[158] Boerner, S., H.H-W. Funke, P. Hendrick, E. Recker, R. Elsing, 2013, Development and integration of a scalable low NOx combustion chamber for a hydrogen-fueled aerogas turbine, Progress in Propulsion Physics 4: 357 – 372, https://doi.org/10.1051/eucass/201304357

[159] DOE, 2023b, Addressing NOx Emissions from Gas Turbines Fueled with Hydrogen, H2IQ Hour Webinar, September, www.energy.gov/eere/fuelcells/h2iq-hour-addressing-nox-emissions-gas-turbines-fueled-hydrogen

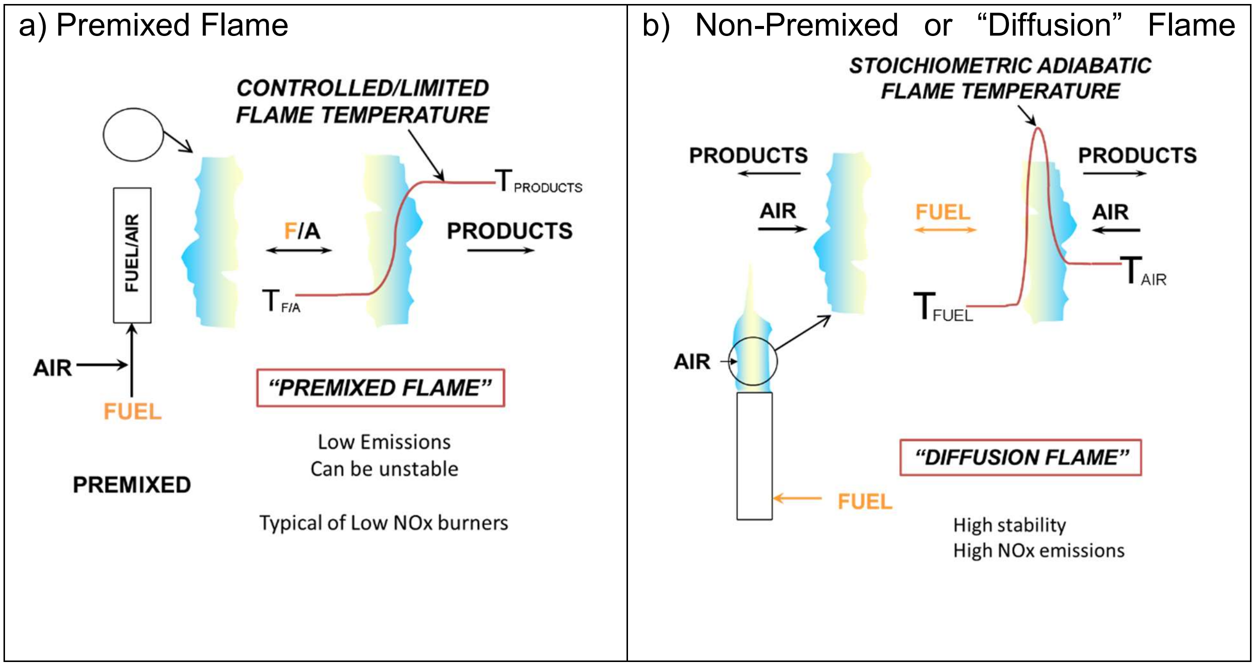

Figure 5: Flame Types

6.1.3 Exhaust Gas Recirculation

Exhaust gas recirculation (EGR) is a process utilized to reduce the temperature of combustion and subsequent NOx formation. In EGR, exhaust gas is injected back into the engine cylinders which displaces air and decreases the amount of oxygen in the combustion chamber.[160] This ultimately reduces the maximum combustion temperature. In combustion reactions considered aerodynamically stabilized, fuel composition, excess air and aerodynamics in the chamber imposed by the nozzle impact the mass flow of exhaust recirculated. The impact of EGR is highest in less reactive fuels due to slower reaction times allowing for more mixing time before combustion reactions occur. Hydrogen is generally a highly reactive fuel with a shorter flame length. At lean conditions (lower equivalence ratio), which yield lower temperatures and lower NOx formation (for all fuel types), the impact of fuel composition on reactivity is more important and decreases as the equivalence ratio approaches 1. Fuel reactivity is generally lower at

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[160] Wikipedia contributors, 2023, Exhaust gas recirculation. Wikipedia, The Free Encyclopedia, cited 2023 December 13, https://en.wikipedia.org/wiki/Exhaust_gas_recirculation

lean conditions (lower equivalence ratio), indicating that EGR may be more effective at reducing the formation of NOx emissions at leaner conditions.

Some burner technologies demonstrate an increase in NOx emissions as the percentage of hydrogen in the fuel is increased. Aerodynamic stabilization strategy appears to be a commonality among burner technologies that experience this increase in NOx emissions as the percentage of hydrogen in the fuel increases at a fixed equivalence ratio. As described above, the high reactivity of hydrogen increases the chemistry speed, which minimizes the mixing time, and hence, minimizes the benefits of EGR as hydrogen percentage increases in the fuel.[161] At a fixed equivalence ratio, the adiabatic flame temperature for hydrogen/air premixed flames is higher than the adiabatic flame temperature for natural gas.[162] [163]

EGR is a type of thermal dilution utilized in internal combustion engines. Water injection is another type of thermal dilution commonly used in non-premixed systems. However, water injection may decrease the thermal efficiency of an internal combustion unit. Studies have demonstrated up to 90% reduction in NOx emissions when utilizing water injection in turbines.[164] Another study on the utilization of EGR and water injection in a hydrogen fueled spark ignition internal combustion engine found that NOx emissions were reduced by 97% using water injection and reduced by 57% using EGR without a decrease in the brake thermal efficiency and overall efficiency, respectively.[165]

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[161] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL), 2016, Ibid.

[162] Giacomazzi, E., et al., 2023, Hydrogen Combustion, Ibid.

[163] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL), 2016, Ibid.

[164] Bahr, D.W., T.F. Lyon, 1984, NOx Abatement via Water Injection in Aircraft-Derivative Turbine Engines, ASME 1984 International Gas Turbine Conference and Exhibit June 4–7, 1984, Amsterdam, The Netherlands, https://doi.org/10.1115/84-GT-103

[165] Dhyani, V., K.A. Subramanian, 2019, Control of backfire and NOx emission reduction in a hydrogen fueled multi-cylinder spark ignition engine using cooled EGR and water injection strategies, International Journal of Hydrogen Energy (44) 12: 6287-6298, https://doi.org/10.1016/j.ijhydene.2019.01.129

6.1.4 Thermal Efficiency

Thermal efficiency is the ratio of work output to heat input. The higher the thermal efficiency, the lower the potential formation of NOx during combustion, as the amount of heat input required is minimized. Increasing the compression ratio in an internal combustion unit is one way to increase the thermal efficiency of that unit. The compression ratio is a measure of how much the fuel mixture is compressed prior to ignition and the higher the compression ratio, the more fuel can be extracted from the fuel mixture. The compression ratio for hydrogen combustion can be higher than that of natural gas due to the higher flame speed and autoignition temperature.

The higher burning velocity of hydrogen increases the cooling loss to the combustion chamber wall when combusting hydrogen in an internal combustion engine. This increased cooling loss may decrease the thermal efficiency in these units. To increase the thermal efficiency, the cooling loss to the combustion chamber wall must be reduced, but consideration also needs to be made for the potential increase in exhaust heat loss. A study by Toshio Shudo found that utilizing a stratified charge by direct injection into a lean fuel mixture could effectively improve thermal efficiency in hydrogen combustion.[166] It is important to consider the impact of heat transfer on thermal efficiency in hydrogen combustion units.

6.1.5 Combustion Residence Time

The residence time, which is the exposure to peak combustion temperature, also impacts the formation of NOx emissions. The longer the residence time, the greater the formation of NOx. Therefore, it is important for manufacturers to design to minimize the residence time of combustion reactions.[167] [168]

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[166] Shudo, T., 2007, Improving thermal efficiency by reducing cooling losses in hydrogen combustion engines, International Journal of Hydrogen Energy 32 (17): 4285-4293, https://doi.org/10.1016/j.ijhydene.2007.06.002

[167] Onorati, A., et al., 2022, The role of hydrogen, Ibid.

[168] Lewis, A.C., 2021, Optimizing air quality co-benefits in a hydrogen economy: a case for hydrogen-specific standards for NOx emissions, Environmental Science: Atmospheres 2021(1): 201-207, https://doi.org/10.1039/D1EA00037C

6.1.6 Additional Design Considerations

For gas turbines, reducing their partial load or enhancing their turn down ratio may also decrease the formation of NOx emissions.[169] Other design considerations that may minimize the formation of emissions include retarded injection timing, staged injection of fuel, preheating air, and charge air inter-cooling.

6.2 POST COMBUSTION TREATMENT OF EXHAUST GASES

Similar to current fossil fuel combustion units, exhaust gas aftertreatment is an option for hydrogen combustion units. The most commonly used methods of aftertreatment for controlling NOx emissions are SCR, SNCR, and NSCR.

SCR technology employs a catalyst and reducing agents such as ammonia or urea to reduce NOx.[170] The EPA has noted that SCR typically achieve 70% to 90% reductions in NOx emissions.[171] NOx reductions up to 100% are theoretically possible but may not currently be economical in practice.[172] [173]

SNCR is a post combustion emission control technology for reducing NOx. The process involves injecting ammonia or urea at a location where the flue gas is between 1,400°F and 2,000°F to react with NOx formed in the combustion process. This technology is typically used in power plants that burn biomass. SNCR may also be used to control NOx from a variety of types of equipment including industrial boilers, electric utility steam generators, cement kilns, pulp and paper power boilers, steel industry process units, and

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[169] Giacomazzi, E., et al., 2023, Hydrogen Combustion, Ibid.

[170] Elkaee, S., et al., 2024, Advancements in SCR technologies for NOx reduction: A comprehensive review of reducing agents, https://www.sciencedirect.com/science/article/abs/pii/S0957582024001770

[171] EPA, 2003, Selective Catalytic Reduction (SCR), Air Pollution Control Technology Fact Sheet, EPA-452/F-03-032, https://www.epa.gov/catc/clean-air-technology-center-products#factsheets

[172] Sorrels, J.L., D.D. Randall, K.S. Schaffner, and C.R. Fry, 2019, Chapter 2 - Selective Catalytic Reduction, in Section 4 – NOx Control – of EPA Air Pollution Control Cost Manual, updated June 12, https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution

[173] EPA, 2003, Selective Catalytic Reduction (SCR), Ibid.

refinery process units. The control efficiency typically ranges between 25% and 90% depending on the application and equipment type.[174]

NSCR is a method of aftertreatment that can be utilized for exhaust streams with low oxygen content. NSCR uses a catalyst reaction to simultaneously reduce NOx, CO, and VOC to water, CO2, and nitrogen. The catalyst is typically a noble metal. One type of NSCR system injects a reducing agent into the exhaust gas stream prior to the catalyst reactor to reduce the NOx. Another type of NSCR system has an afterburner and two catalytic reactors (one reduction catalyst and one oxidation catalyst). NSCR control efficiencies range from 80% to 90%.[175]

There are also other technologies for NOx aftertreatment including electron beam irradiation[176] and electrochemical reduction. Electron beam irradiation technology was originally developed in Japan in the 1980's and reduction percentages are typically about 80%. Electrochemical reduction technology uses ionic oxygen conductor membranes with electrodes on both sides and may be able to achieve NOx control efficiencies of about 65%.[177]

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[174] EPA, 2019, Selective Noncatalytic Reduction (SNCR), https://www.epa.gov/sites/default/files/2017-12/documents/sncrcostmanualchapter7thedition20162017revisions.pdf

[175] EPA, 2002, B.16 Nonselective Catalytic Reduction, review draft, CAM Technical Guidance Document, https://www3.epa.gov/ttnchie1/mkb/documents/B_16a.pdf#:~:text=The%20control%20efficiency%20achieved%20for%20NOx%20ranges%20from,space%20velocity%2C%20and%20the%20catalyst%20bed%20operating%20temperature

[176] Jo, Sang-He, et. al., 2021, A study on additives to improve electron beam technology for NOx and SO2 reduction. https://www.sciencedirect.com/science/article/pii/S0969806X21000475

[177] Hansen, K.K., 2018, Electrochemical Removal of NOx Using Oxide-Based Electrodes – A Review, International Journal of Electrochemical Science 13 (10): 9273-9280, https://doi.org/10.20964/2018.10.09

Table 10
NOx Aftertreatment Controls Summary

NOx Aftertreatment Technology	Control Efficiency	Typical Stationary Combustion Equipment
Selective Catalytic Reduction (SCR)	70% to 100%	Lean Burn Engine
Selective Non-Catalytic Reduction (SNCR)	25% to 90%	Boilers
Non-Selective Catalytic Reduction (NSCR)	80% to 90%	Rich Burn Engine
Electron Beam Irradiation	Up to 80%	Various
Electrochemical Reduction	Up to 65%	Various

7.0 DEMAND SCENARIOS EMISSION CHANGE RESULTS

This study evaluated the potential for both NOx emissions increases and reductions associated with the market transition to hydrogen in Central and Southern California, including in the Los Angeles Basin. This included accounting for emissions from infrastructure, not just transmission of hydrogen, but also from third-party production and third-party storage, as well as anticipated NOx reductions for end users in the mobility, power generation, and hard-to-electrify industrial sectors. The three Demand scenarios were used for this analysis.

7.1 DEMAND SCENARIOS OVERALL RESULTS

Overall results for NOx based on the three Demand Scenarios are provided in Table 6 below. Projected NOx reductions for end users is followed by estimated NOx emissions for infrastructure and the total overall results are shown at the bottom of the table.

Figures 6a and 6b depict the estimated annual NOx emissions associated with infrastructure as compared to the projected emission reductions for each of the mobility, power generation, and hard to electrify industrial end use sectors, for the conservative and ambitious demand scenarios, respectively. The values presented for infrastructure are the upper range of the estimates.

As shown in Table 11, as well as Figures 6a and 6b, the results of this study indicate that the anticipated NOx reductions associated with the displacement of fossil fuels by hydrogen far exceeds the potential NOx emissions related to new infrastructure. Therefore, an overall NOx emissions reduction is projected for each of the Demand Scenarios.

Table 11
Overall Annual Change in NOx Emissions for Each Demand Scenario

Category	Use Scenario	2030	2035	2040	2045
End-Users	Conservative	-1,120	-4,753	-9,446	-14,743
	Moderate	-2,870	-7,503	-12,996	-18,180
	Ambitious	-5,598	-11,532	-17,610	-22,424
Infrastructure	Max - Conservative	62	245	527	896
	Max – Moderate	91	288	596	1,001
	Max – Ambitious	358	740	1,263	1,895
	Min – Conservative	0	0	0	0
	Min – Moderate	0	0	0	0
	Min – Ambitious	0	0	0	0
TOTAL	Conservative	-1,059	-4,507	-8,919	-13,847
	Moderate	-2,778	-7,215	-12,400	-17,179
	Ambitious	-5,240	-10,792	-16,347	-20,529

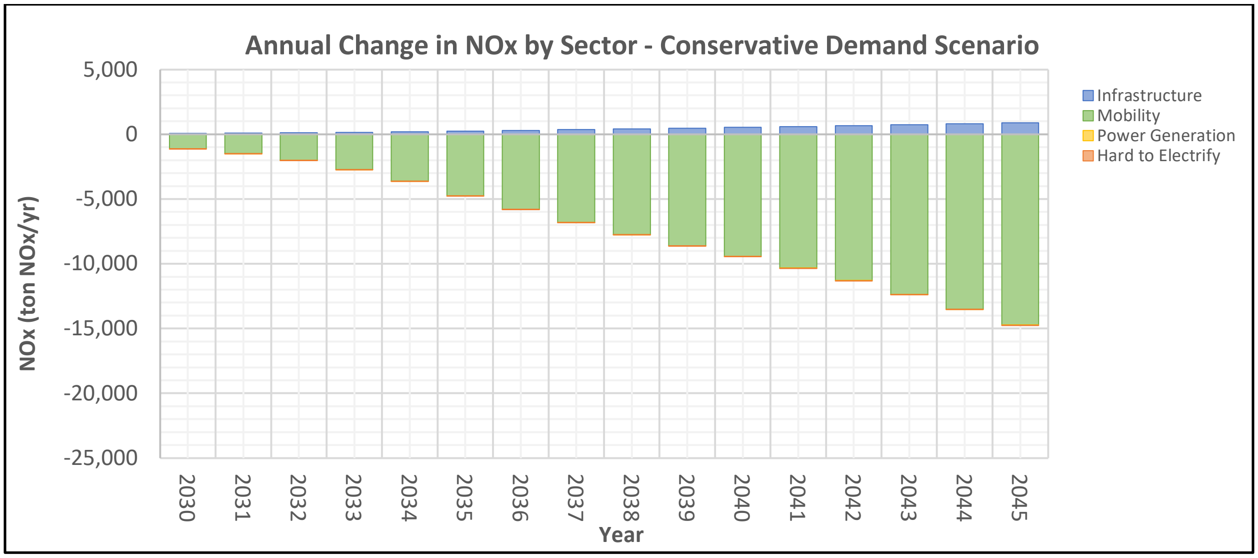


Figure 6a: Annual Change in NOx Emissions by Sector - Conservative Demand Scenario

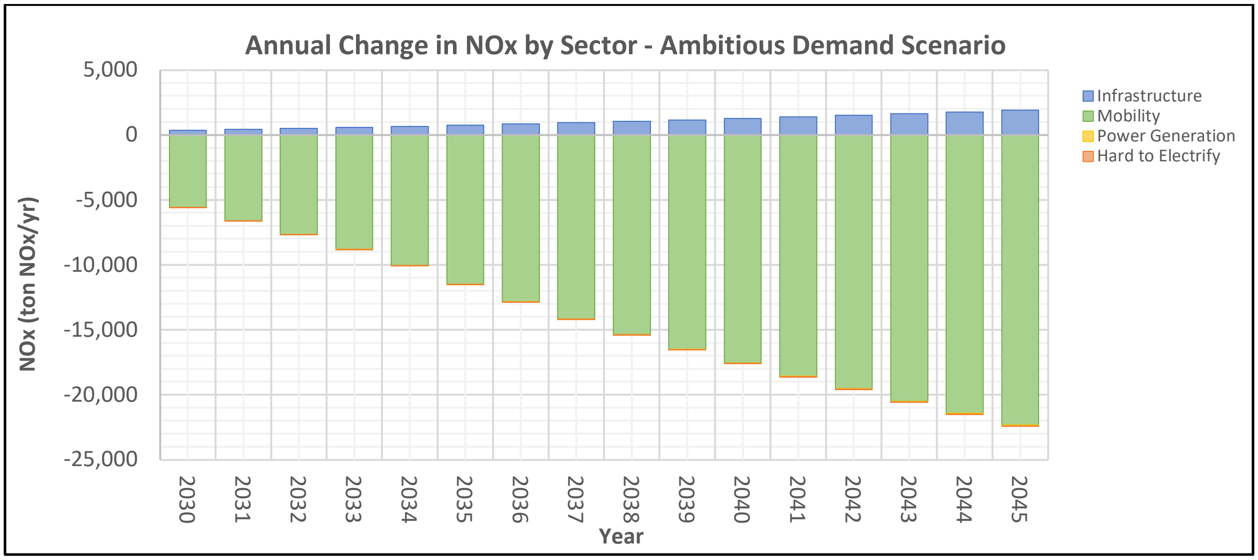


Figure 6b: Annual Change in NOx Emissions by Sector - Ambitious Demand Scenario

The largest reduction in annual end-user NOx is in the ambitious Demand Scenario in 2045 is 22,424 tons NOx/year. This is a five-fold increase in reductions for the ambitious Demand Scenario in 2045 versus the beginning of the study timeframe in 2030 when annual reductions are 5,598 tons NOx/year. For the conservative Demand Scenario, NOx reductions increase from 1,120 ton/year in 2030 to 14,743 ton/year in 2045, a ten-fold increase in NOx reductions.

Estimated infrastructure NOx emissions range from zero to 358 ton/year and 1,895 ton/year for the Ambitious Demand Scenario in 2030 and 2045, respectively. The highest values are based on the 100% SMR scenario for production and were used to calculate the most conservative overall NOx reductions.

The overall change in NOx emissions in the Ambitious Demand Scenario associated with new infrastructure and emission reductions associated with the displacement of fossil fuels by hydrogen in end-users as projected by the Demand Study are about 5,240 tons/year in 2030, and about 20,529 tons/year by 2045.

The specific results from each end-user and infrastructure sector will be explored in more detail throughout the next few sections.

7.2 DEMAND SCENARIOS INFRASTRUCTURE RESULTS

Within the scope of this study, potential NOx emissions from the operation of new infrastructure associated with third-party production, third-party storage, and transmission of the projected hydrogen demand within the geographic region of this study were evaluated. These new infrastructure emissions were estimated based on hypothetical scenarios developed through research. Infrastructure designs must be completed to refine emissions calculations for infrastructure.

7.2.1 Demand Scenarios Third-Party Production Results

Three hydrogen third-party production methods were identified for analysis: electrolysis, biomass gasification, and biogas (renewable natural gas) for SMR with a heater fueled by 100% hydrogen.

Electrolysis is driven by electricity, and this study assumed only renewable electricity for third-party production. Therefore, it was assumed that there is no potential for NOx emissions. Biomass gasification is a non-combustion process. As no combustion is occurring during the process, it was assumed that there was no pathway for the formation of NOx emissions. SMR does require the use of an external combustion unit. Therefore, NOx emissions were calculated from the combustion of hydrogen occurring within the external combustion unit.

Production emissions were calculated for six cases for each of the three Demand Scenarios. The minimum case is zero NOx emissions for the scenario where third-party production of hydrogen is produced by electrolysis or biomass gasification.

1. Minimum heat input rating, 0% hydrogen production from SMR (100% from electrolysis or biomass gasification)
2. Maximum heat input rating, 0% hydrogen production from SMR (100% from electrolysis or biomass gasification)
3. Minimum heat input rating, 33% of hydrogen production from SMR
4. Maximum heat input rating, 33% of hydrogen production from SMR
5. Minimum heat input rating, 100% of hydrogen production from SMR
6. Maximum heat input rating, 100% of hydrogen production from SMR

NOx emissions from the first two cases were zero, as no NOx emissions are associated with electrolysis using renewable electricity or biomass gasification. Table 12 below outlines the potential NOx emissions (ton/year) from production in the maximum emissions case for the ambitious Demand Scenario for years 2030, 2035, 2040, and 2045. Table 12 shows the results representing the minimum scenarios together in the same row since the results are zero for multiple scenarios. However, this Study does not create an equivalency between electrolysis and biomass gasification. NOx emissions from production increase throughout the study timeframe as hydrogen demand projections from the Demand Study increase. Minimum estimated emissions are zero NOx and maximum estimated emissions are 739 tons NOx per year for the case of 100% SMR with the maximum external combustion heat input rating for the ambitious Demand Scenario.

Table 12
Estimated Potential NOx Emissions from Third-Party Production for Demand Scenarios

Demand Scenario	Emissions (tons/year)				Production Scenario
	2030	2035	2040	2045	
Conservative Min	0	0	0	0	100% Electrolysis or Biomass Gasification
Conservative Max	17	66	141	240	100% SMR (Avg + Std. Dev)
Moderate Min	0	0	0	0	100% Electrolysis or Biomass Gasification
Moderate Max	36	112	233	391	100% SMR (Avg + Std. Dev)
Ambitious Min	0	0	0	0	100% Electrolysis or Biomass Gasification
Ambitious Max	140	289	493	739	100% SMR (Avg + Std. Dev)

7.2.2 Demand Scenarios Third-Party Storage & Transmission Results

Emissions estimates for NOx were prepared based on research and assumptions made for a range of hypothetical hydrogen third-party storage and transmission cases. Four different third-party storage and transmission cases were evaluated based on a range of input variables representative of various design options for each of the three Demand Scenarios. This led to a total of twelve different NOx emissions cases. The minimum case was the zero-emissions scenario where all compression was driven by electric motors. In this minimum case NOx emissions were zero.

Tables 13 and 14 below summarize the maximum and minimum NOx emissions from third-party storage and transmission of hydrogen, respectively, for the years 2030, 2035, 2040, and 2045 for each Demand Scenario. Estimated NOx emissions from the storage of hydrogen range from 0 ton/year to 290 ton/year, and estimated NOx emissions from the transmission of hydrogen range from 0 ton/year to 866 ton/year in 2045.

Table 13
Estimated Potential NOx Emissions from Third-Party Storage of Hydrogen for Demand Scenarios

Demand Scenario	Emissions (ton NOx/yr)				Scenario	
	2030	2035	2040	2045	Storage Pressure	Power Source
Conservative - Max	7	26	55	94	2,900 psi	Reciprocating Engine
Conservative - Min	0	0	0	0	All pressures	Renewable Electricity
Moderate - Max	14	44	91	153	2,900 psi	Reciprocating Engine
Moderate - Min	0	0	0	0	All pressures	Renewable Electricity
Ambitious - Max	55	113	193	290	2,900 psi	Reciprocating Engine
Ambitious - Min	0	0	0	0	All pressures	Renewable Electricity

Table 14
Estimated Potential NOx Emissions from Transmission of Hydrogen for Demand Scenarios

Demand Scenario	Emissions (ton NOx/yr)				Scenario	
	2030	2035	2040	2045	Transmission Distance	Power Source
Conservative - Max	19	77	165	281	450 miles	Reciprocating Engine
Conservative - Min	0	0	0	0	All distances	Renewable Electricity
Moderate - Max	42	132	272	458	450 miles	Reciprocating Engine
Moderate - Min	0	0	0	0	All distances	Renewable Electricity
Ambitious - Max	163	338	577	866	450 miles	Reciprocating Engine
Ambitious - Min	0	0	0	0	All distances	Renewable Electricity

7.3 DEMAND SCENARIOS END-USER RESULTS

Figure 7 below shows the percentage of 2030 and 2045 NOx reductions that come from each end-use sector in the ambitious Demand Scenario. As shown in the chart, 99.9% of the 2030 NOx reductions and 99.6% of 2045 NOx reductions come from the mobility sector. The Demand Study projected the anticipated fossil fuel displacement associated with FCEVs only. The associated NOx reductions were estimated only for conversion to FCEVs. This study does not project emission reductions related to fossil fuel displacement that will be associated with BEVs. This trend for most of the NOx emission reductions to come from the mobility sector is consistent throughout the study time frame within each of the Hydrogen Demand Scenarios.

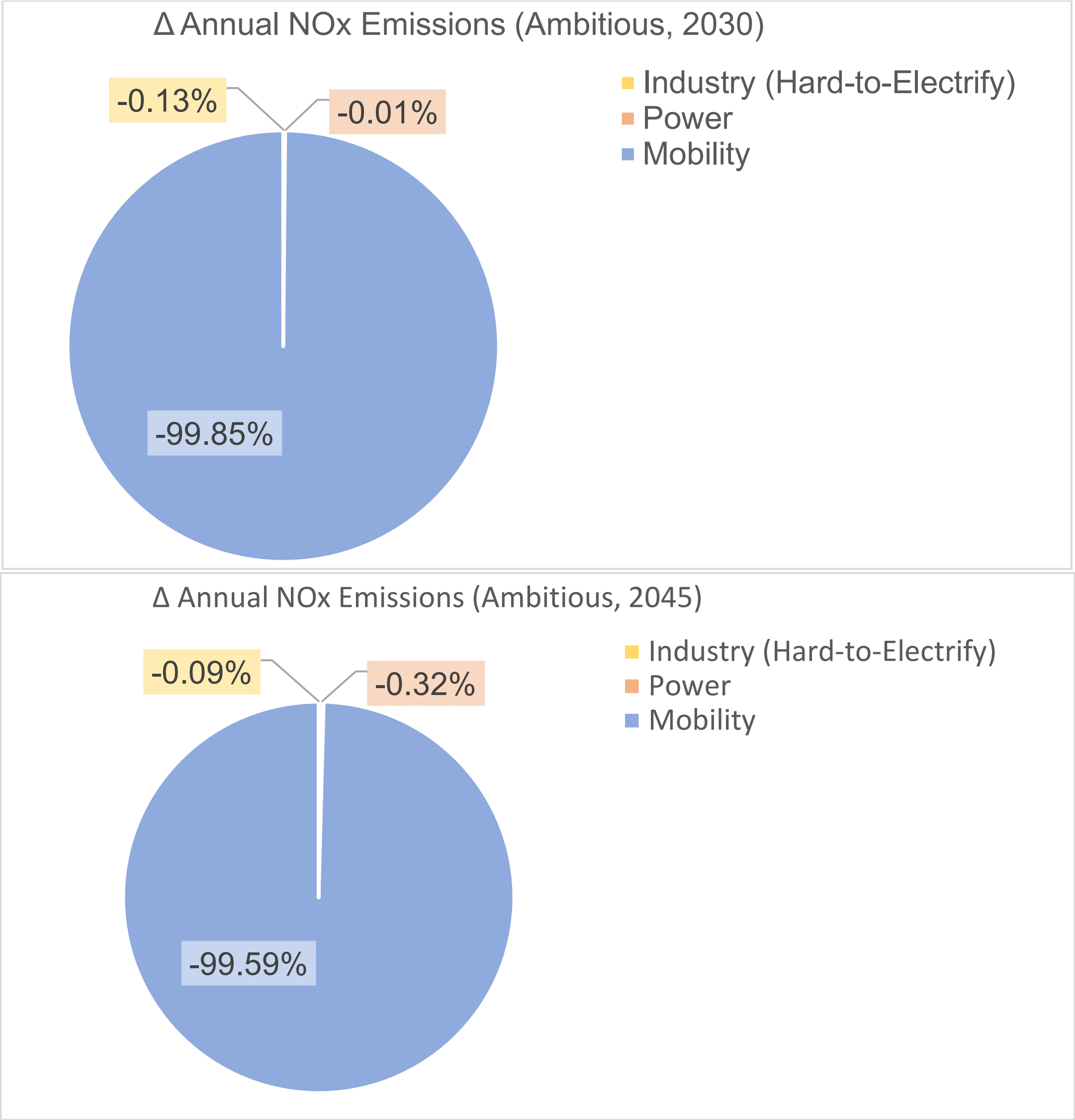


Figure 7: Percent of Reductions Attributable to Each Sector

7.3.1 Demand Scenarios Mobility Results

Hydrogen demand in the mobility sector was assumed to be utilized in hydrogen fuel cells. The only emissions from hydrogen fuel cells are water vapor and heat. Therefore, NOx emissions associated with the use of hydrogen are assumed to be zero. Fossil fuel volumes displaced by hydrogen as calculated by the Demand Study account for a 100% reduction in emissions by unit displaced. Table 15 below illustrates the NOx emissions reductions (ton/year) for the years 2030, 2035, 2040, and 2045 for each of the three Demand Scenarios. Figures 8a and 8b below illustrate the annual change in NOx emissions broken out by each sub-sector for the study timeframe in the conservative and ambitious Demand Scenario. The overall NOx reductions from mobility in 2045 in the ambitious Demand Scenario were estimated at 22,333 ton/year.

Table 15
Mobility NOx Emissions (ton/year) Reductions for Each Demand Scenario

Scenario	2030	2035	2040	2045
Conservative	1,117	4,745	9,431	14,717
Moderate	2,866	7,490	12,967	18,126
Ambitious	5,589	11,508	17,560	22,333

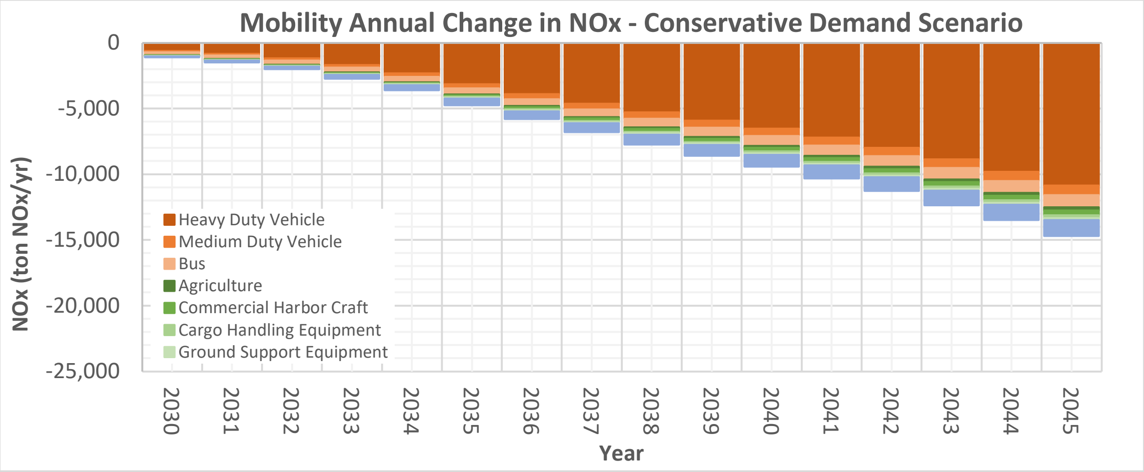


Figure 8a: Annual Change in NOx Emissions - Conservative Hydrogen Demand Scenario

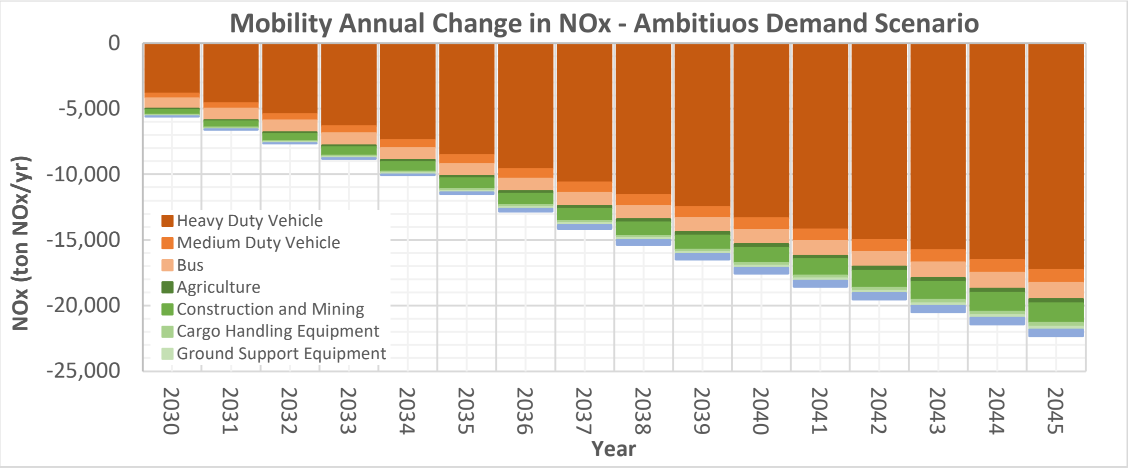
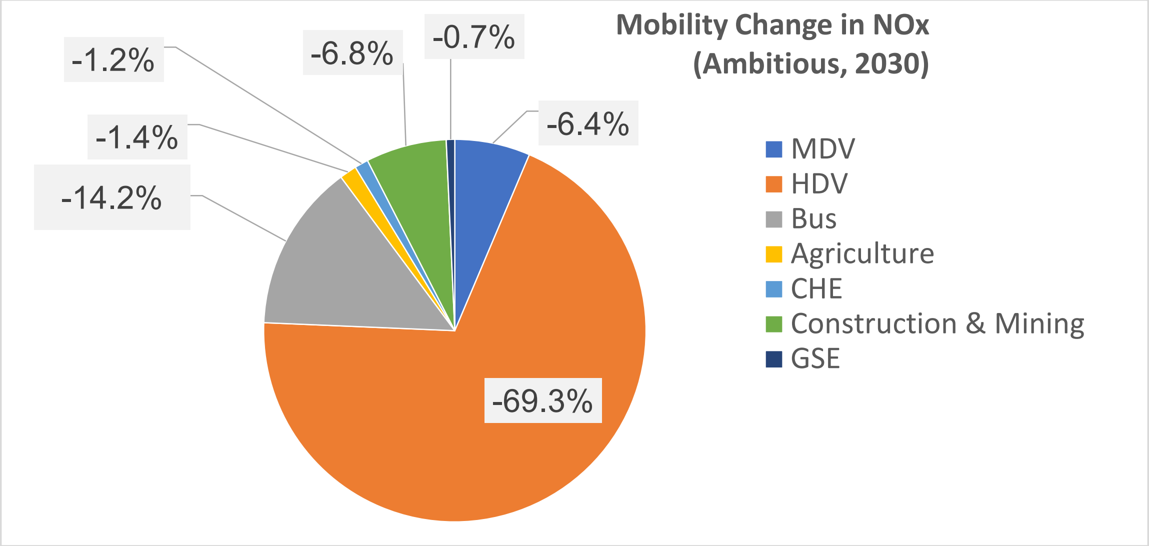


Figure 8b: Mobility Annual Change in NOx Emissions - Ambitious Hydrogen Demand Scenario

Figure 9 below shows the percentage of NOx mass emission reductions attributable to each sub-sector in the years 2030 and 2045 in the ambitious Demand Scenario. The largest percentage of reductions in NOx mass emissions are attributable to the HDV sub-sector at 69.1% of total NOx reductions in 2030 and 77.4% of total reductions in 2045. In 2030, the second largest percentage of NOx reductions is seen within the Bus sub-sector at 14.2%. In 2045, the second largest percentage of reductions is seen in the construction and mining sub-sector.



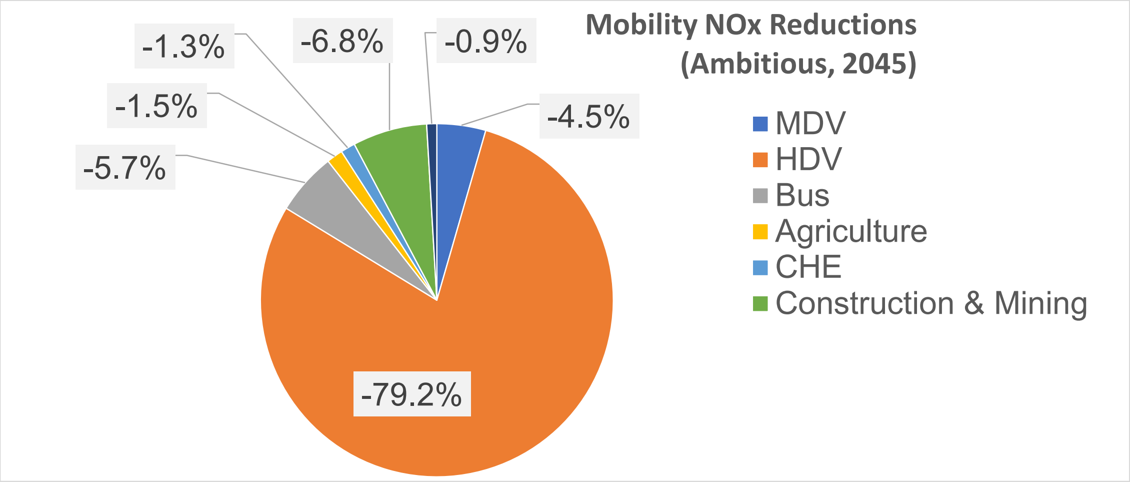


Figure 9 Percentage of NOx Emission Reductions Attributable to each Sub-Sector in the Ambitious Hydrogen Demand Scenario for Years 2030 and 2045

Tables 16 and 17 and Figures 10a and 10b below show the NOx mass emission reductions from on-road and off-road sources in the conservative and ambitious Demand Scenarios. NOx mass emission reductions from on-road sources are much larger than calculated NOx mass emission reductions attributable to off-road sources for each of the Demand Scenarios in each year within the study time frame.

Table 16
NOx Reductions from On-Road and Off-Road Mobility for Diesel and Gasoline in the Conservative Demand Scenario

Year	Diesel On-Road (ton/year)	Diesel Off-Road (ton/year)	Gasoline On-Road (ton/year)	Gasoline Off-Road (ton/year)	% On-Road	% Off-Road
2030	779	88	151	99	83%	17%
2035	3,551	343	372	479	83%	17%
2040	7,117	692	724	898	83%	17%
2045	11,565	940	961	1,252	85%	15%

Table 17
NOx Reductions from On-Road and Off-Road Mobility for Diesel and Gasoline in the Ambitious Demand Scenario

Year	Diesel On-Road (ton/year)	Diesel Off-Road (ton/year)	Gasoline On-Road (ton/year)	Gasoline Off-Road (ton/year)	% On-Road	% Off-Road
2030	4,436	256	571	326	90%	10%
2035	9,363	613	744	789	88%	12%
2040	14,268	1,047	1,054	1,191	87%	13%
2045	18,241	1,257	1,268	1,567	87%	13%

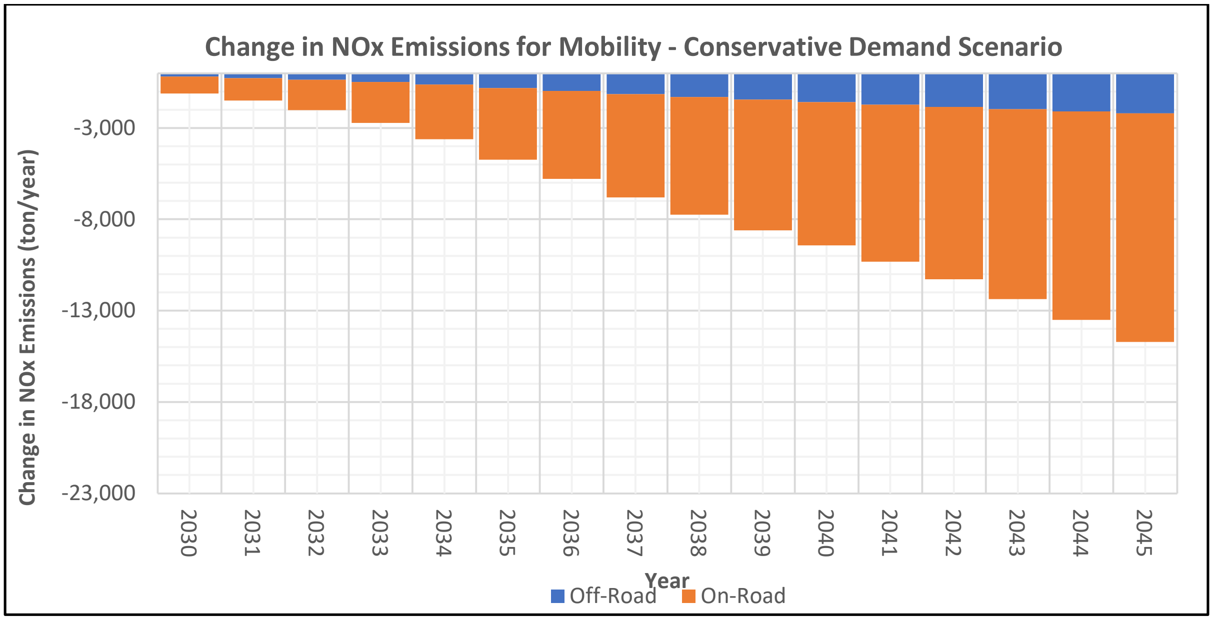


Figure 10a: Change in NOx Emissions for Mobility Sector: On-Road and Off-Road Conservative Demand Scenario

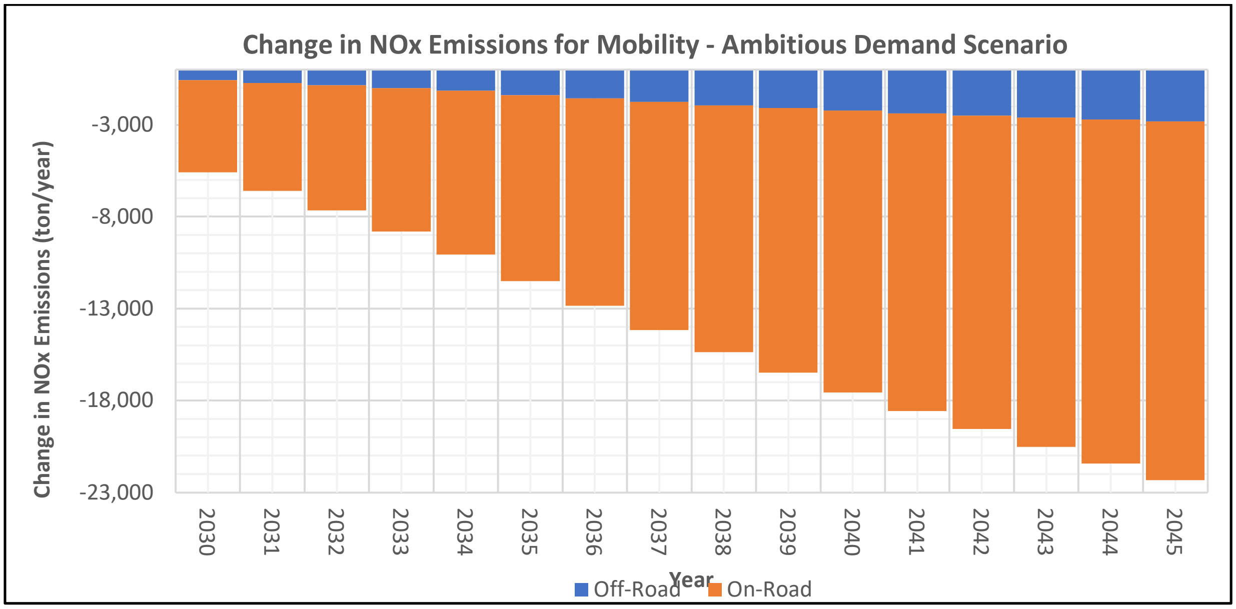


Figure 10b: Change in NOx Emissions for Mobility Sector: On-Road and Off-Road Ambitious Demand Scenario

7.3.2 Demand Scenarios Power Generation Results

Reductions in NOx emissions were calculated for Power Generation facilities associated with the use of hydrogen demand projected by the Demand Study. The power generation sector is broken into two sub-sectors, “Peaker and Baseload” and “Cogeneration.” Table 18 below illustrates the change in NOx emissions (ton/year) from power generation in 2030, 2035, 2040, and 2045 for each of the three Hydrogen Demand Scenarios. Figures 11a and 11b below display the annual NOx change in emissions (ton/year) for the power generation sector broken out between the two sub-sectors associated with the conservative Demand Scenario and the ambitious Demand Scenario.

Table 18
Power Generation NOx Reductions (ton/year) for Each Demand Scenario

Scenario	2030	2035	2040	2045
Conservative	0.2	2.9	9.0	19.0
Moderate	0.5	6.8	20.9	44.1
Ambitious	0.7	11.0	33.9	71.7

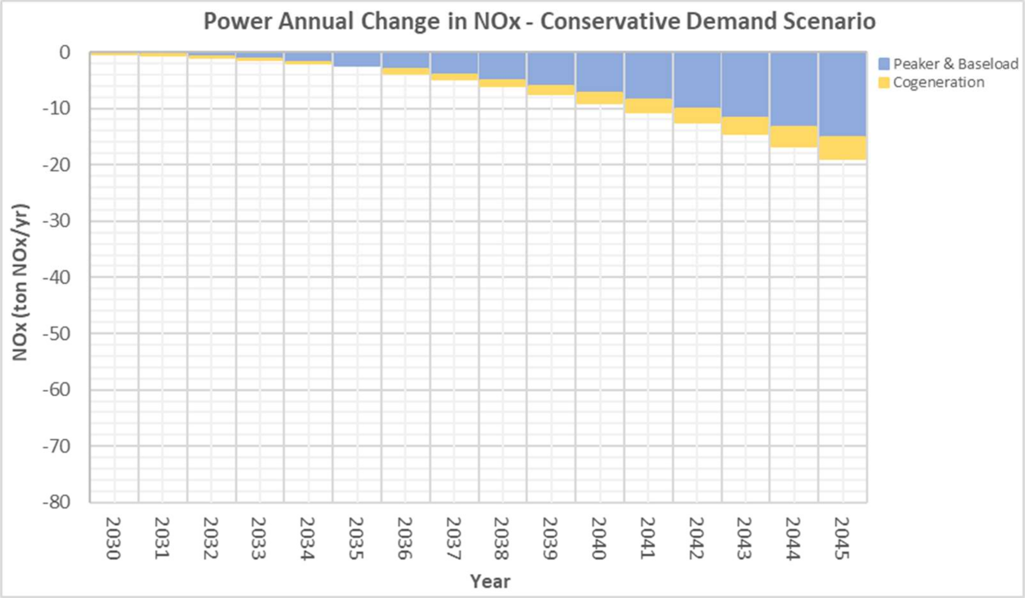


Figure 11a Power Generation Change in NOx Emissions (ton/year) - Conservative Hydrogen Demand Scenario

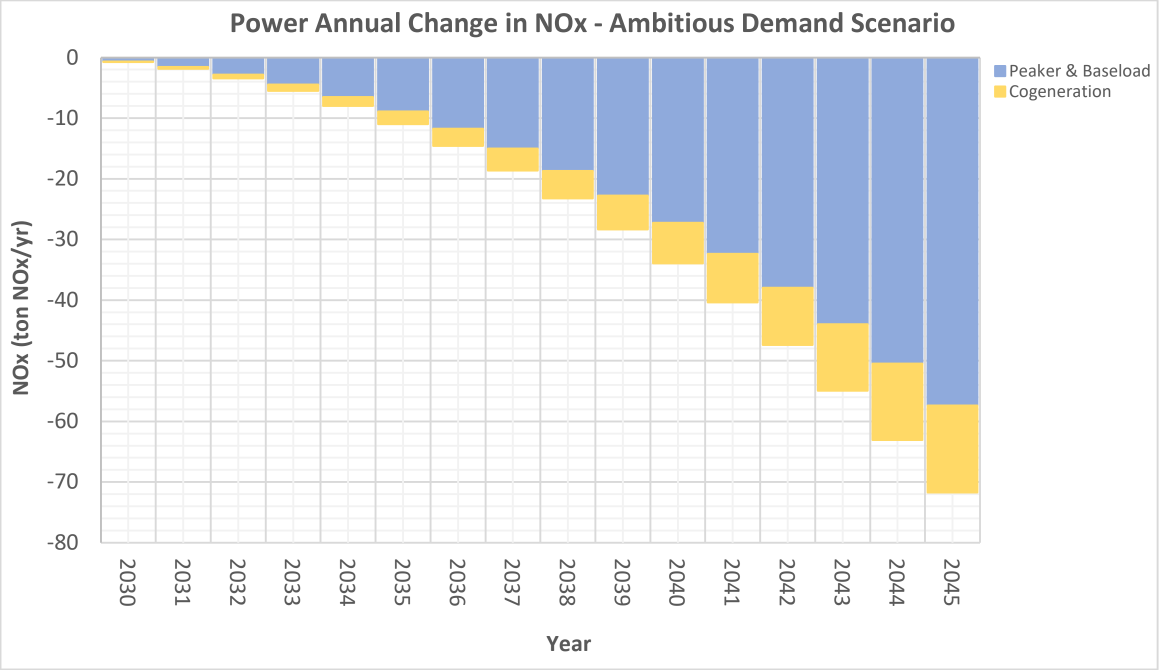


Figure 11b Power Generation Change in NOx Emissions (ton/year) - Ambitious Hydrogen Demand Scenario

As mentioned above, the magnitude of the reductions in NOx mass emissions (ton/year) from the power generation sector increase over time from 2030 to 2045. Annual NOx reductions in the ambitious Demand Scenario are 0.7 ton/year in 2030 and 71.7 ton/year in 2045, representing a hundred-fold increase in reductions.

Figure 11c below represents the percentage of the change in NOx emissions (seen as reductions) attributable to peaker and baseload versus cogeneration for the ambitious Demand Scenario in the years 2030 and 2045. The results presented in these figures are relatively similar across Demand Scenarios. Comparing the percentage of reductions within this one scenario over time demonstrates that the percentage of reductions attributable to cogeneration increases slightly over time from 13% in 2030 to 20% in 2045, while the percentage of reductions attributable to peaker and baseload decreases slightly over time from 87% in 2030 to 80% in 2045.

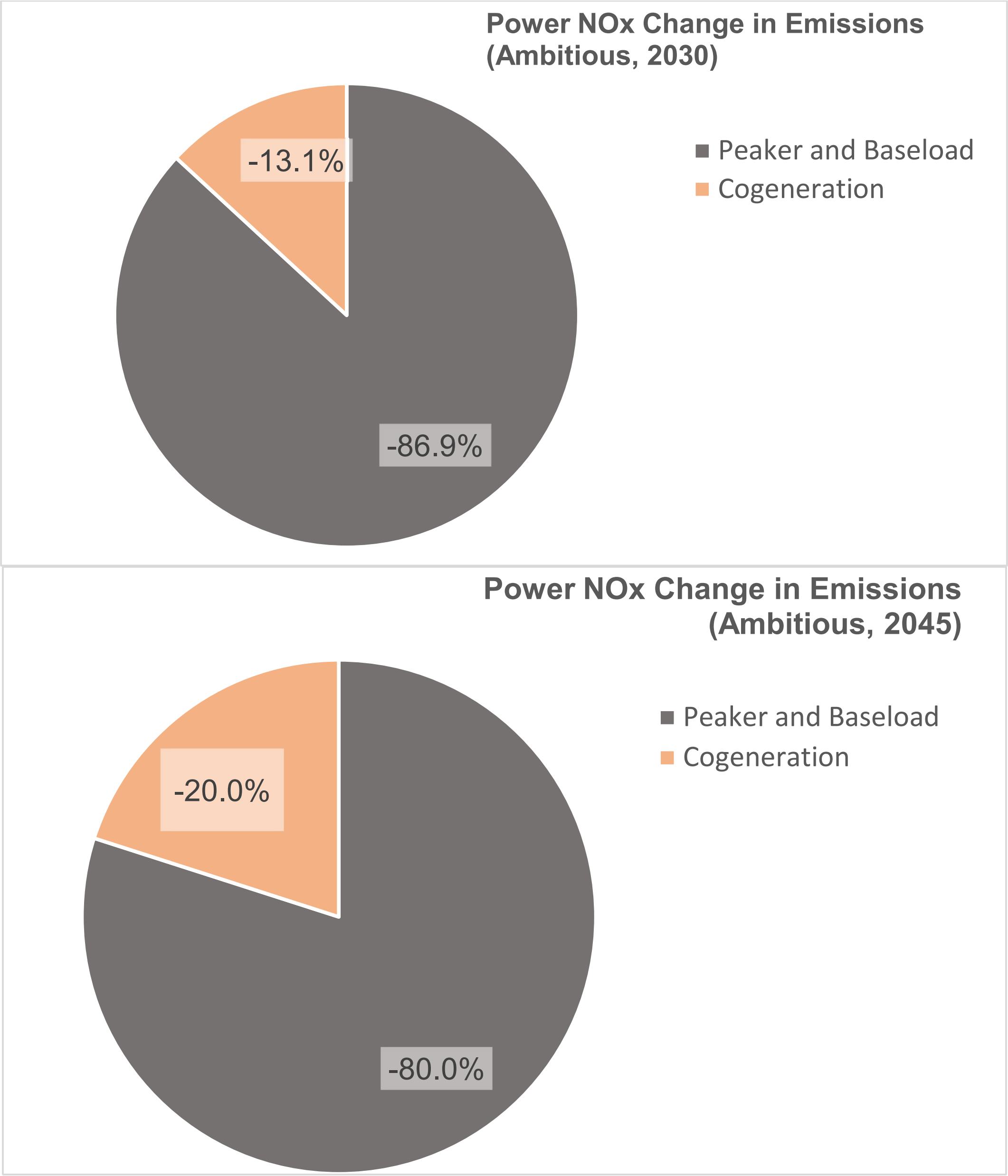


Figure 11c: Percent of NOx Emission Changes Attributable to Sub-Sectors Ambitious Hydrogen Demand Scenario Years 2030 and 2045

7.3.3 Demand Scenarios Hard to Electrify Results

Change in NOx emissions associated with the use of hydrogen demand displacing fossil fuels as projected by the Demand Study in hard to electrify industrial sub-sectors was calculated. NOx emission reductions are experienced from displacing fossil fuels with hydrogen fuel in each of the hard to electrify industrial sub-sectors evaluated. Table 19 below illustrates the change in NOx emissions for the hard to electrify industrial sector for years 2030, 2035, 2040, and 2045 for each of the three Demand Scenarios. Figures 12a and 12b below show the change in emissions calculated for each hard to electrify industrial sub-sector associated with the displacement of fossil fuels by hydrogen as projected by the Demand Study for each sub-sector for each year of the study timeframe for the conservative Demand Scenario and the ambitious Demand Scenario.

Table 19
Hard to Electrify Industrial NOx Reductions (ton/year) for Each Demand Scenario

Scenario	2030	2035	2040	2045
Conservative	2.7	4.3	5.4	6.2
Moderate	3.5	6.1	8.0	9.9
Ambitious	7.4	12.5	16.2	19.3

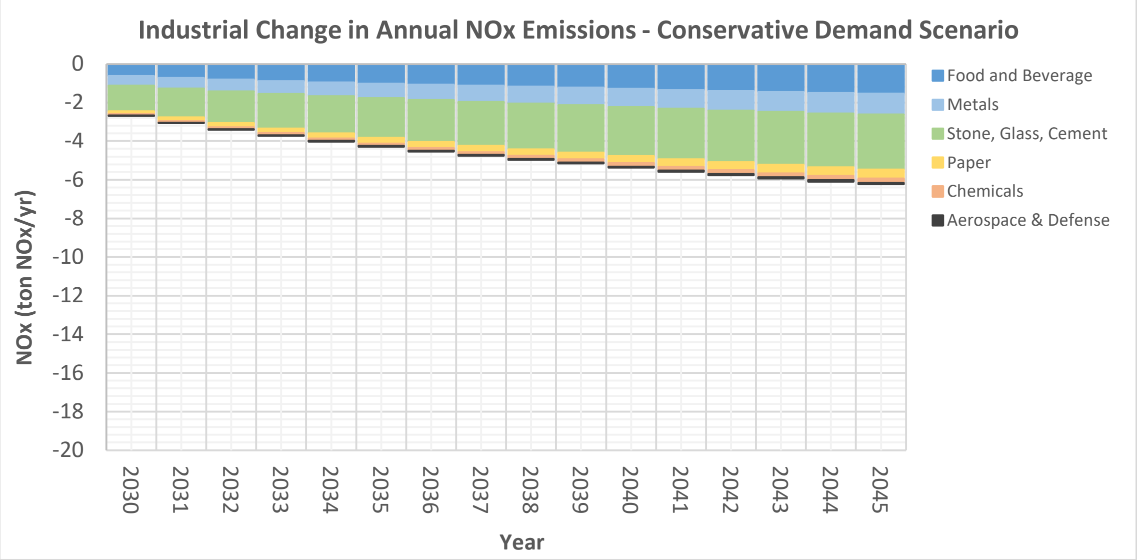


Figure 12a: Annual Change in NOx Emissions for Hard to Electrify Industrial Sector - Conservative Hydrogen Demand Scenario

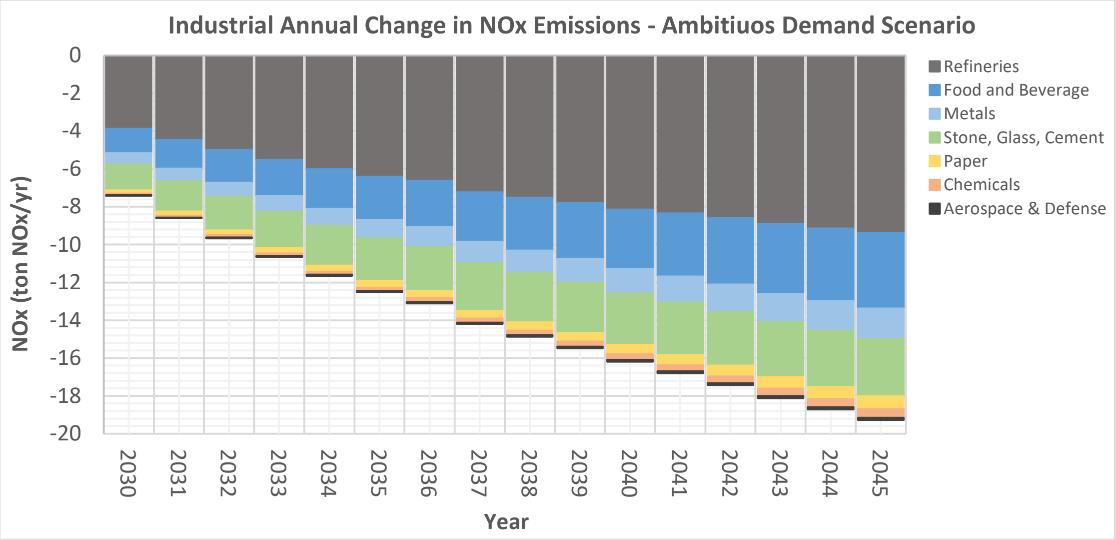


Figure 12b: Annual Change in NOx Emissions for Hard to Electrify Industrial Sector - Ambitious Hydrogen Demand Scenario

In the ambitious Demand Scenario calculated NOx reductions from hard to electrify industrial sectors are 7.4 ton/year in 2030 and 19.3 ton/year in 2045. Figures 13a and 13b below represent the percent of NOx mass emission change (ton/year) attributable to each hard to electrify industrial sub-sector evaluated in 2030 and 2045 for the conservative, moderate, and ambitious scenarios. The results presented in these figures are relatively similar across all years within each Demand Scenario. In the conservative Scenario, stone, glass, cement contributed the largest percentage of emissions reductions at 48.9% in 2030 and 45.6% in 2045, followed by food and beverage at 23.6% in 2030 and 24.8% in 2045, then metals at 18.1% in 2030 and 17.3% in 2045. The moderate Scenario was similar to the conservative Scenario, with top three sub-sectors contributing to overall reductions as stone, glass, cement then food and beverage then metals. In the ambitious Scenario, the proportions differ because refineries account for 52.2% of reductions in 2030 and 48.7% of reductions in 2045. The next highest sub-sectors contributing to reductions in the ambitious scenario are stone, glass, cement then food and beverage then metals. The reason for this difference in allocation for results is that the Demand Study did not consider hydrogen demand from the refinery sub-sector in the conservative or moderate Demand Scenarios.

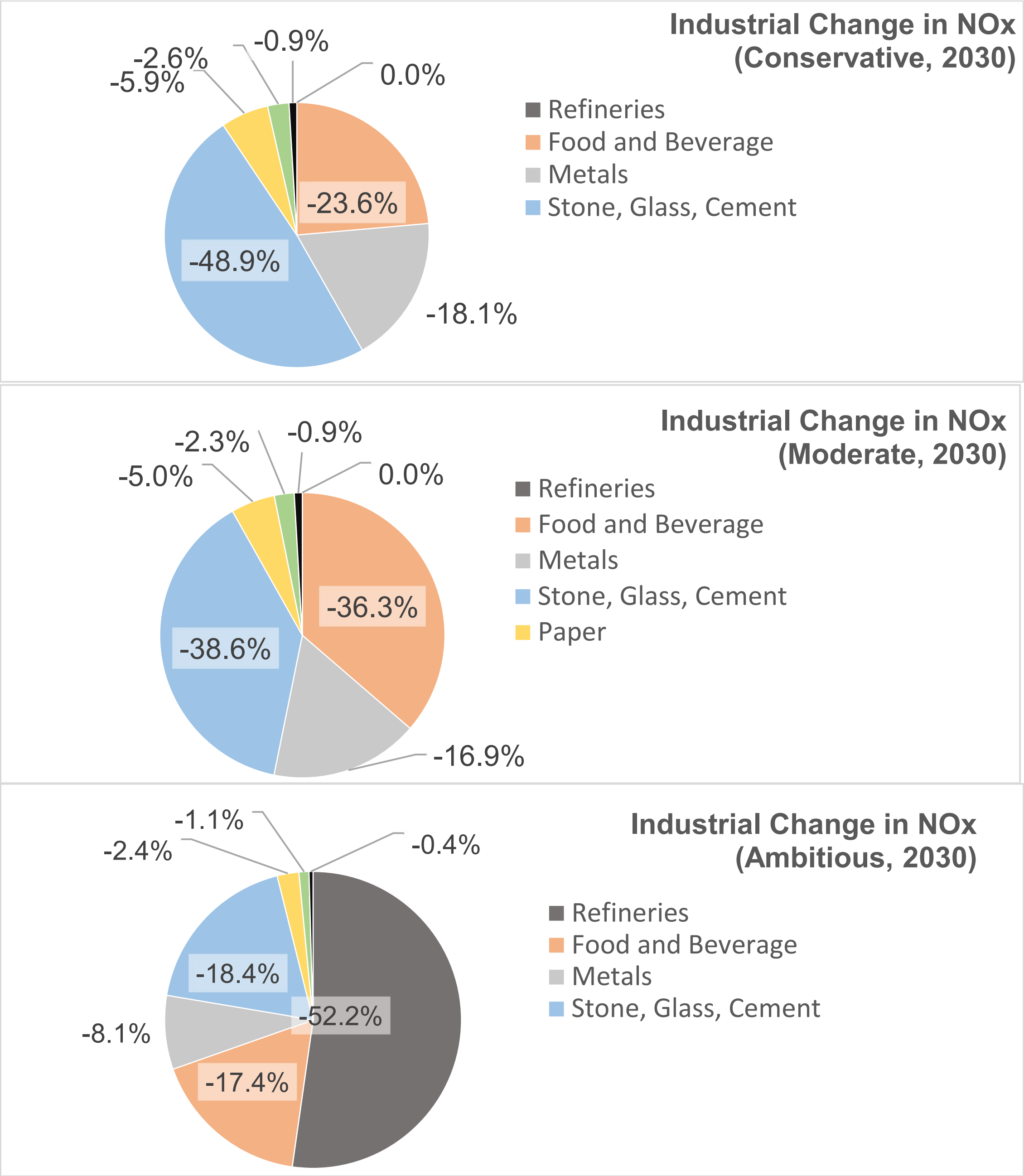


Figure 13a: Percent of NOx Emissions Change Attributable to Each Hard to Electrify Industrial Sub-Sector by Demand Scenario 2030

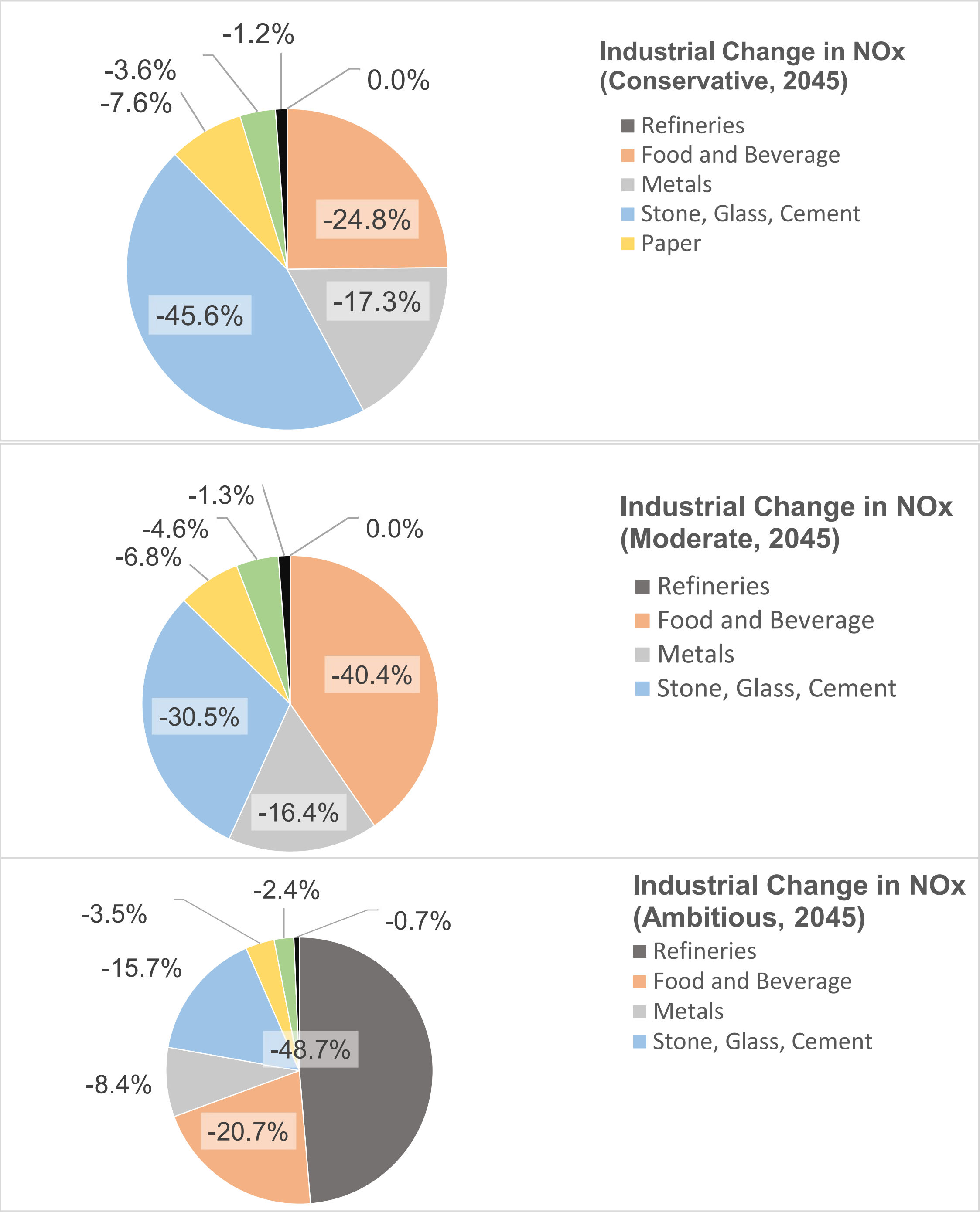


Figure 13b: Percent of NOx Emissions Change Attributable to Each Hard to Electrify Industrial Sub-Sector by Demand Scenario 2045

8.0 ANGELES LINK THROUGHPUT SCENARIOS EMISSION CHANGE RESULTS

This study evaluated the potential for both NOx emissions increases and reductions associated with Angeles Link. This included accounting for emissions from infrastructure, not just transmission of hydrogen, but also from third-party production and third-party storage, as well as anticipated NOx reductions for end users in the mobility, power generation, and hard-to-electrify industrial sectors. The three throughput scenarios were used for this analysis.

8.1 ANGELES LINK THROUGHPUTS OVERALL RESULTS

Overall results for NOx based on the three throughput scenarios are provided in Table 20 below. Projected NOx reductions for end users is followed by estimated NOx emissions for infrastructure and the total overall results are shown at the bottom of the table.

In the low throughput scenario, the hydrogen volumes provided assumed that 26.85% of the market hydrogen demand projected by the Demand Study in the conservative demand scenario would be supplied by Angeles Link. In the medium throughput scenario, the hydrogen volumes provided assumed that 31.12% of the market hydrogen demand projected by the Demand Study in the moderate Demand Scenario would be supplied by Angeles Link. In the high throughput scenario, the hydrogen volumes provided assumed that 25.36% of the market hydrogen demand projected by the Demand Study in the ambitious Demand Scenario would be supplied by Angeles Link. These percentages for each of the three scenarios were applied consistently to the NOx emissions for infrastructure and to NOx emission reductions for each of the three end-use sectors, and all sub-sectors, provided in this Final Study Report.

Figures 15a and 15b depict the estimated annual NOx emissions associated with infrastructure as compared to the projected emission reductions for each of the mobility, power generation, and hard to electrify industrial end use sectors, for the conservative and ambitious demand scenarios, respectively. The values presented for infrastructure are the upper range of the estimates.

As shown in Table 20, as well as Figures 14a and 14b, the results of this study indicate that the anticipated NOx reductions associated with the displacement of fossil fuels by hydrogen far exceeds the potential NOx emissions related to new infrastructure.

Therefore, an overall NOx emissions reduction is projected for each of the throughput scenarios.

Table 20
Overall Annual Change in NOx Emissions for each Throughput Scenario (tpy)

Category	Scenario	2030	2035	2040	2045
End-Users	Low	-301	-1,276	-2,536	-3,958
	Medium	-893	-2,335	-4,045	-5,658
	High	-1,420	-2,925	-4,466	-5,687
Infrastructure	Max - Low	11	45	97	165
	Max – Med	28	90	186	312
	Max – High	91	188	320	481
	Max - Low	0	0	0	0
	Max – Med	0	0	0	0
	Max – High	0	0	0	0
TOTAL	Low	-289	-1,231	-2,439	-3,793
	Medium	-865	-2,245	-3,859	-5,347
	High	-1,329	-2,737	-4,146	-5,206

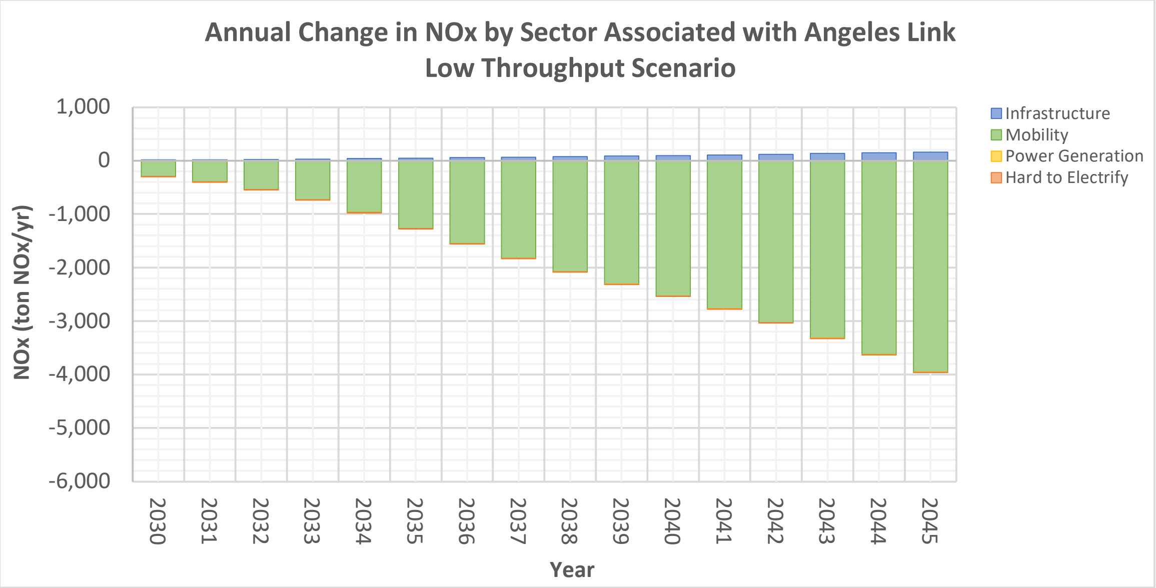


Figure 14a: Annual Change in NOx by Sector Associated with Angeles Link – Low Throughput Scenario

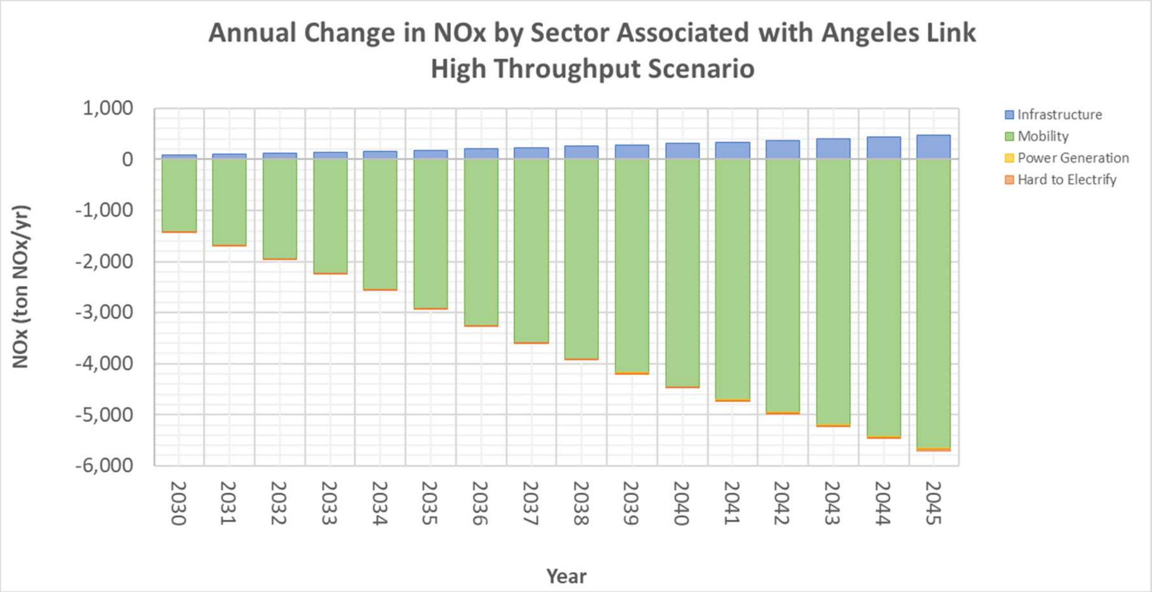


Figure 14b: Annual Change in NOx by Sector Associated with Angeles Link – High Throughput Scenario

The largest reduction in annual end-user NOx is in the high throughput scenario in 2045 is 5,687 tons NOx/year. This is a three-fold increase in reductions for the high throughput scenario in 2045 versus the beginning of the study timeframe in 2030 when annual reductions are 1,420 tons NOx/year. During this same time frame, new infrastructure emissions are estimated to range from zero to 91 tons per year of NOx in 2030 and 481 tons per year of NOx in 2045, for the high throughput scenario. The highest values are based on the 100% SMR scenario for production and were used to calculate the most conservative overall NOx reductions. The overall estimated NOx reductions for the low and high throughput scenarios in 2045 are 3,793 tons NOx/year and 5,206 tons NOx/year, respectively.

The specific results from each end-user and infrastructure sector will be explored in more detail throughout the next few sections.

8.2 INFRASTRUCTURE RESULTS

Within the scope of this study, potential NOx emissions from the operation of new infrastructure associated with third-party production, third-party storage, and transmission of the projected hydrogen demand within the geographic region of this study were evaluated. These new infrastructure emissions were estimated based on hypothetical scenarios developed through research. Infrastructure designs must be completed to refine emissions calculations for infrastructure.

8.2.1 Third-Party Production Results

Three hydrogen third-party production methods were identified for analysis: electrolysis, biomass gasification, and biogas (renewable natural gas) for SMR with a heater fueled by 100% hydrogen.

Electrolysis is driven by electricity, and this study assumed only renewable electricity for third-party production. Therefore, it was assumed that there is no potential for NOx emissions. Biomass gasification is a non-combustion process. As no combustion is occurring during the process, it was assumed that there was no pathway for the formation of NOx emissions. SMR does require the use of an external combustion unit. Therefore, NOx emissions were calculated from the combustion of hydrogen occurring within the external combustion unit.

Production emissions were calculated for the same six cases as was done for the Demand Scenarios. The minimum case is zero NOx emissions for the scenario where third-party production of hydrogen is produced by electrolysis or biomass gasification.

Table 21 below provides the estimated emissions associated with the maximum and minimum cases for each of the evaluated throughput scenarios in 2030, 2035, 2040, and 2045. Table 21 shows the results representing the minimum scenarios together in the same row since the results are zero for multiple scenarios. However, this Study does not create an equivalency between electrolysis and biomass gasification.

NOx emissions from production increases throughout the study time frame as the volume of hydrogen estimated increases. The maximum estimated third-party production emissions for the high throughput scenario is 187 tons/year NOx.

Table 21
Estimated Potential NOx Emissions for Third-Party Production of Hydrogen for Throughput Scenarios

Throughput Scenario	Emissions (tons/year)				
	2030	2035	2040	2045	
Low - Min	0	0	0	0	100% Electrolysis or Biomass Gasification
Low - Max	4	18	38	64	100% SMR (Avg + Std. Dev)
Medium - Min	0	0	0	0	100% Electrolysis or Biomass Gasification
Medium - Max	11	35	72	122	100% SMR (Avg + Std. Dev)
High - Min	0	0	0	0	100% Electrolysis or Biomass Gasification
High - Max	35	73	125	187	100% SMR (Avg + Std. Dev)

8.2.2 Third-Party Storage and Transmission

Emissions estimates for NOx were prepared based on research and assumptions made for a range of hypothetical hydrogen third-party storage and transmission cases. Four different third-party storage and transmission cases were evaluated based on a range of input variables representative of various design options for each of the three throughput scenarios. This led to a total of twelve different NOx emissions cases. The minimum case was the zero-emissions scenario where all compression was driven by electric motors. In this minimum case NOx emissions were zero.

Tables 22 and 23 below summarize the NOx emissions from third-party storage and transmission of hydrogen for the years 2030, 2035, 2040, and 2045 for each throughput scenario. Estimated NOx emissions for third-party storage range from 0 ton/year to 74 ton/year, and estimated NOx emissions for transmission range from 0 ton/year to 220 ton/year by the year 2045.

Table 22
Estimated Potential NOx Emissions for Third-Party Storage of Hydrogen for Throughput Scenarios

Throughput Scenario	Emissions (tons/yr)				Scenario	
	2030	2035	2040	2045	Storage Pressure	Power Source
Low - Min	0	0	0	0	All pressures	Renewable Electricity
Low - Max	2	7	15	25	2,900 psi	Reciprocating Engine
Medium - Min	0	0	0	0	All pressures	Renewable Electricity
Medium - Max	4	14	28	48	2,900 psi	Reciprocating Engine
High - Min	0	0	0	0	All pressures	Renewable Electricity
High - Max	14	29	49	74	2,900 psi	Reciprocating Engine

Table 23
Estimated Potential NOx Emissions for Transmission of Hydrogen for Throughput Scenarios

Throughput Scenario	Emissions (tons/yr)				Scenario	
	2030	203	2040	2045	Transmission Distance	Power Source
Low - Min	0	0	0	0	All distances	Renewable Electricity
Low - Max	5	21	44	75	450 miles	NA
Medium - Min	0	0	0	0	All distances	Renewable Electricity
Medium - Max	13	41	85	142	450 miles	NA
High - Min	0	0	0	0	All distances	Renewable Electricity
High - Max	41	86	146	220	450 miles	NA

8.3 ANGELES LINK OVERALL END-USER RESULTS

Hydrogen to be supplied by Angeles Link was estimated for three throughput scenarios: low, medium, and high. Hydrogen supplied by Angeles Link in each scenario increases each year during the study time frame of 2030 to 2045.

8.3.1 Angeles Link Mobility Results

Hydrogen usage in the mobility sector was assigned to hydrogen fuel cells or FCEV. The only emissions from hydrogen fuel cells are water vapor and heat. Therefore, NOx emissions associated with the use of FCEV are zero. Thus, the diesel and gasoline volumes displaced by hydrogen account for a 100% reduction in emissions by unit displaced. Table 24 below illustrates the NOx emissions reductions (ton/year) for the years 2030, 2035, 2040, and 2045 for each of the three throughput scenarios. Figures 15a and 15b below illustrate the annual change in NOx emissions broken out by each sub-sector for all years of the study timeframe in the low and high throughput scenarios, respectively. The overall NOx reductions from mobility in 2045 for the high throughput scenario were estimated at 5,664 ton/year.

Table 24
Mobility NOx Emission Reductions for Angeles Link Throughput Scenarios (tpy)

Throughput Scenario	2030	2035	2040	2045
Low	300	1,274	2,532	3,951
Medium	892	2,331	4,036	5,641
High	1,418	2,919	4,453	5,664

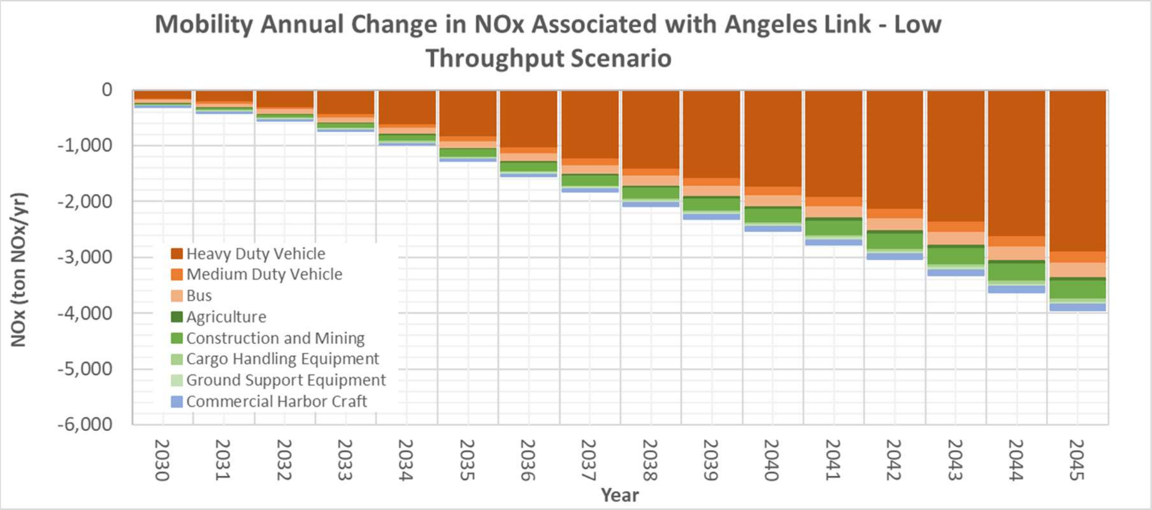


Figure 15a: Mobility Annual Change in NOx Emissions Associated with Angeles Link – Low Throughput Scenario

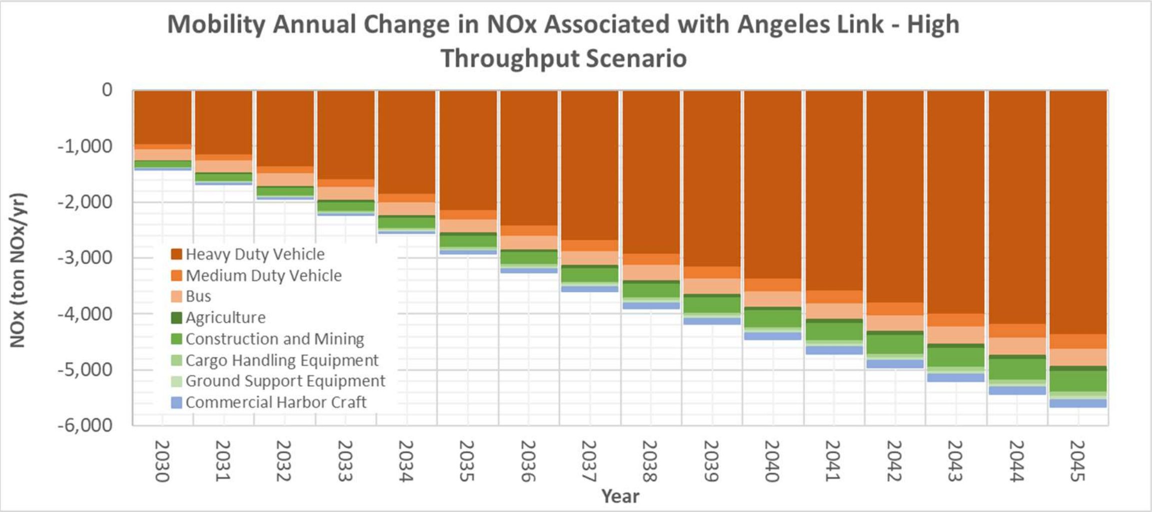


Figure 15b: Mobility Annual Change in NOx Emissions Associated with Angeles Link – High Throughput Scenario

Tables 25 and 26 and Figures 16a and 16b below show the NOx mass emission reductions from on-road and off-road sources in the low and high throughput scenarios, respectively. NOx mass emission reductions from on-road sources are larger than calculated NOx mass emission reductions attributable to off-road sources for each of the throughput scenarios for each year within the study time frame.

Table 25 NOx Reductions from On-Road and Off-Road Mobility for Diesel and Gasoline in the Low Throughput Scenario						
Year	Diesel On-Road (ton/year)	Diesel Off-Road (ton/year)	Gasoline On-Road (ton/year)	Gasoline Off-Road (ton/year)	% On-Road	% Off-Road
2030	209	24	41	27	83%	17%
2035	953	92	100	129	83%	17%
2040	1,911	186	194	241	83%	17%
2045	3,105	252	258	336	85%	15%

Table 26 NOx Reductions from On-Road and Off-Road Mobility for Diesel and Gasoline in the High Throughput Scenario						
Year	Diesel On-Road (ton/year)	Diesel Off-Road (ton/year)	Gasoline On-Road (ton/year)	Gasoline Off-Road (ton/year)	% On-Road	% Off-Road
2030	1,125	65	145	83	90%	10%
2035	2,374	155	189	200	88%	12%
2040	3,618	266	267	302	87%	13%
2045	4,626	319	321	397	87%	13%

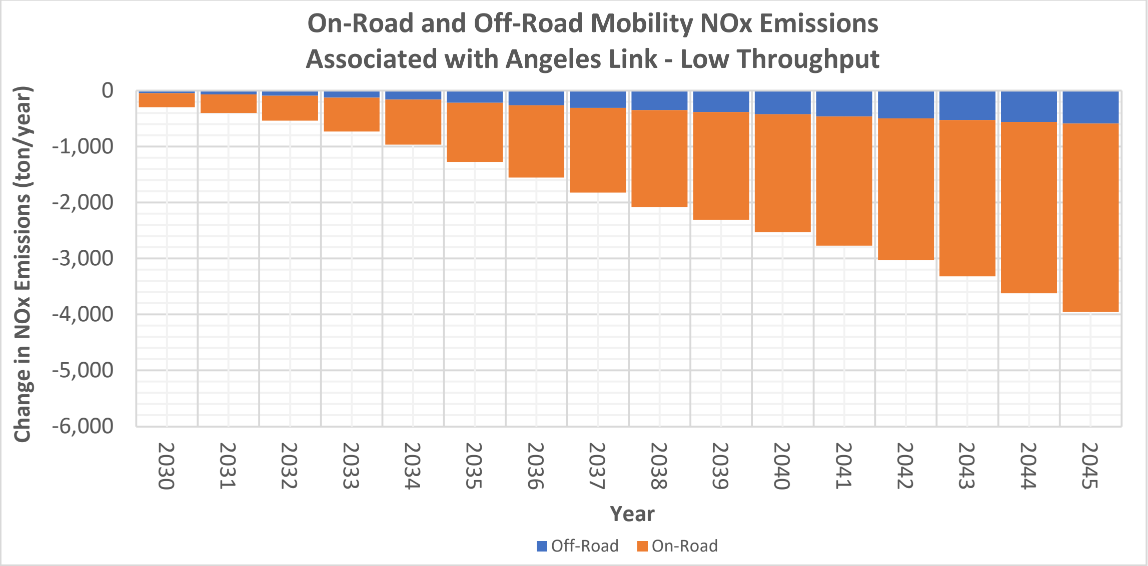


Figure 16a: On-Road and Off-Road Mobility Change in NOx Emissions Associated with Angeles Link - Low Throughput Scenario

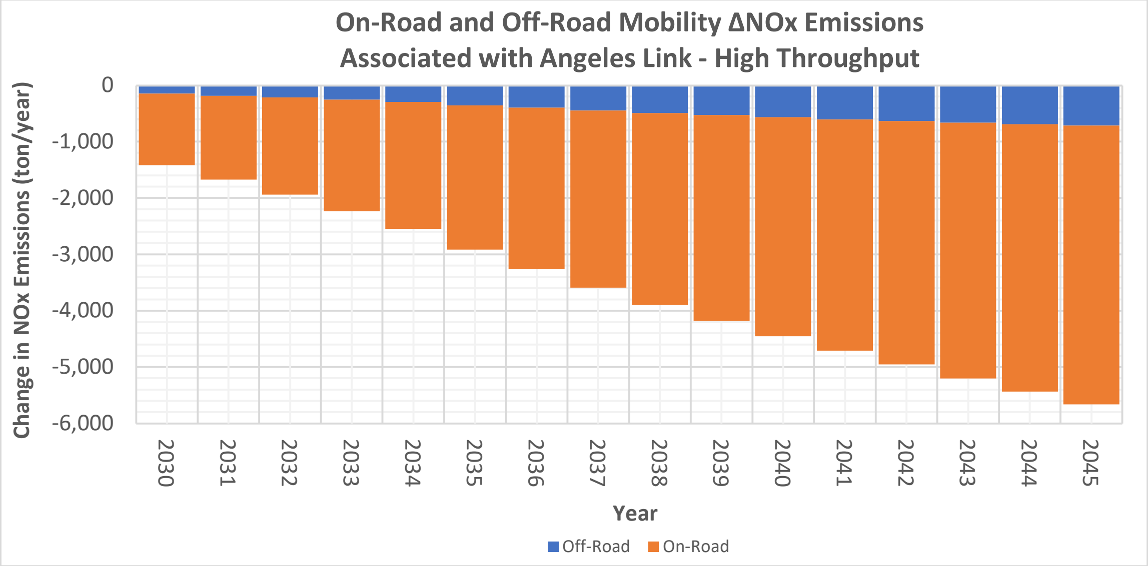


Figure 16b: On-Road and Off-Road Mobility Change in NOx Emissions Associated with Angeles Link - High Throughput Scenario

8.3.2 Angeles Link Power Generation Results

Reductions in NOx emissions were calculated for the power generation sector which is broken into two sub-sectors: peaker and baseload, and cogeneration. Table 27 below illustrates the estimated change in NOx emissions (ton/year) from power generation in 2030, 2035, 2040, and 2045 for each of the three throughput scenarios. Figures 17a and 17b below display the annual NOx change in emissions (ton/year) for the power generation sector for the low and high throughput scenarios, respectively.

Table 27
Power Generation NOx Emission Reductions for AL Throughput Scenarios (tpy)

Throughput Scenario	2030	2035	2040	2045
Low	0.1	0.8	2.4	5.1
Medium	0.1	2.1	6.5	13.7
High	0.2	2.8	8.6	18.2

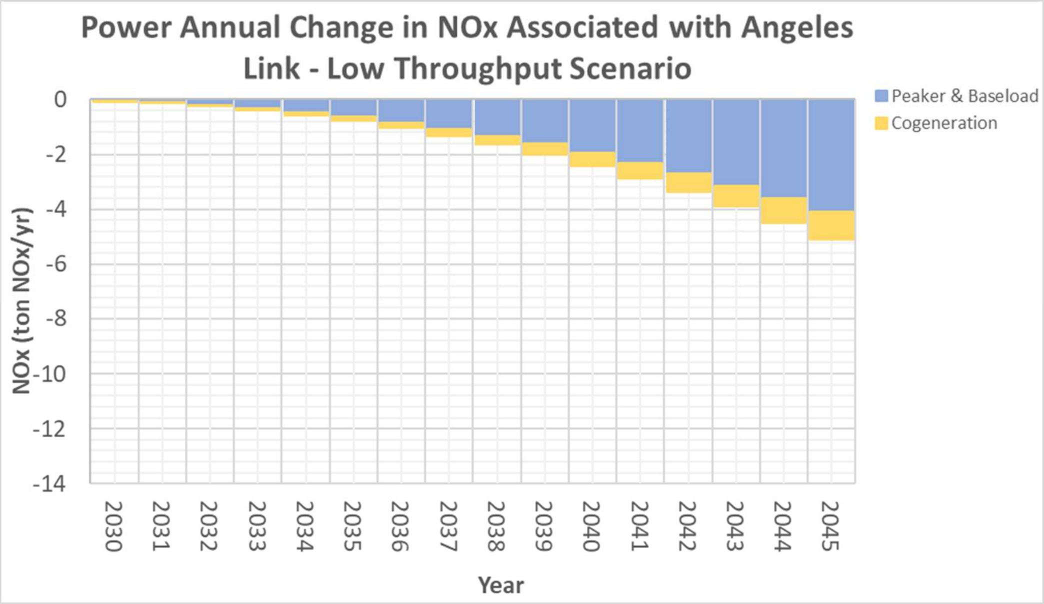


Figure 17a: Power Generation Change in NOx Emissions Associated with Angeles Link – Low Throughput Scenario

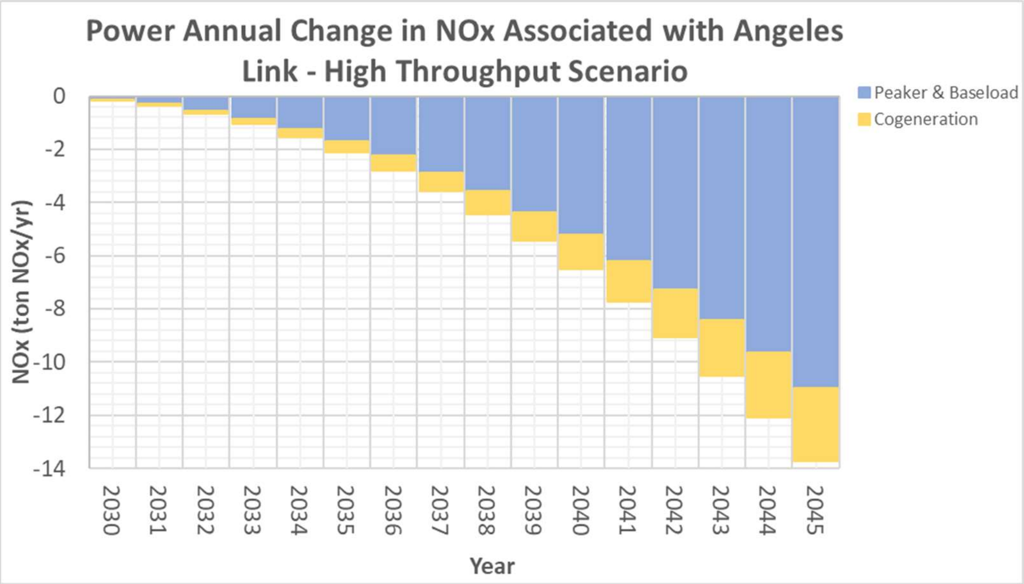


Figure 17b: Power Generation Change in NOx Emissions Associated with Angeles Link – High Throughput Scenario

8.3.3 Angeles Link Hard to Electrify Industrial Results

This study calculated a reduction in NOx emissions associated with the displacement of natural gas fuel with hydrogen fuel as supplied by Angeles Link in the hard to electrify industrial sector. Table 28 below illustrates the change in NOx emissions for the hard to electrify industrial sector for years 2030, 2035, 2040, and 2045 for each of the three throughput scenarios. Figures 18a and 18b below show the change in emissions calculated for each hard to electrify industrial sub-sector associated with the displacement of natural gas by hydrogen for each year of the study time frame for the low and high throughput scenarios, respectively.

Table 28
Hard to Electrify NOx Emissions Reductions for AL Throughput Scenarios (tpy)

Throughput Scenario	2030	2035	2040	2045
Low	0.7	1.2	1.4	1.7
Medium	1.1	1.9	2.5	3.1
High	1.9	3.2	4.1	4.9

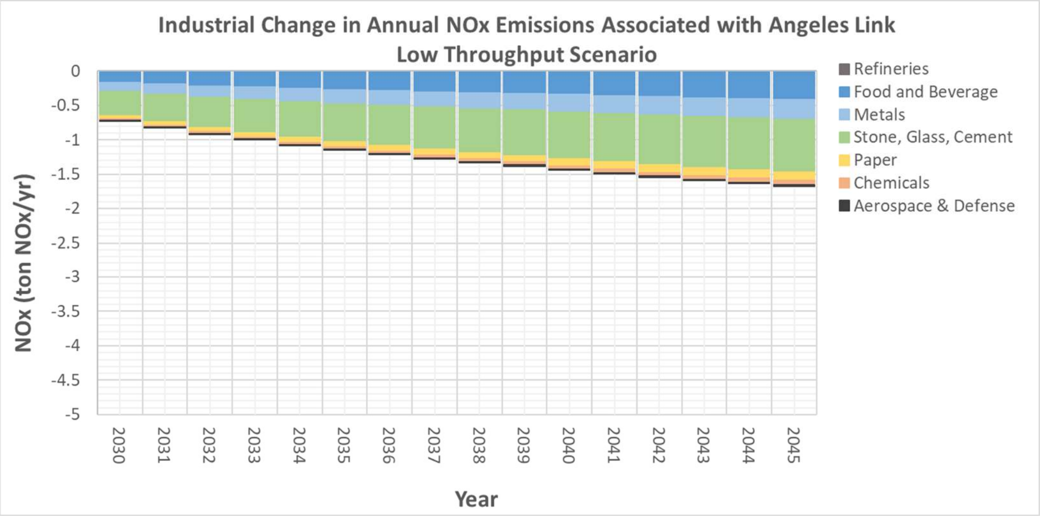


Figure 18a: Hard to Electrify Industrial Change in Annual NOx Emissions Associated with Angeles Link – Low Throughput Scenario

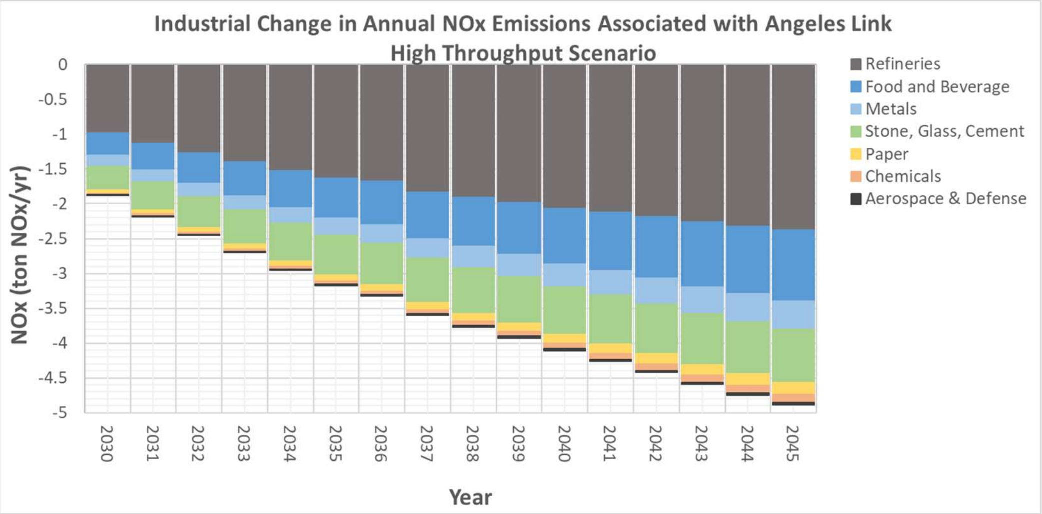


Figure 18b: Hard to Electrify Industrial Change in Annual NOx Emissions Associated with Angeles Link – High Throughput Scenario

9.0 RESULTS DISCUSSION

An overall reduction in NOx emissions is estimated associated with each of the three Demand Scenarios and each of the three Angeles Link throughput scenarios when comparing the potential increase in emissions from new infrastructure and the reduction in NOx emissions from end-users. The overall reductions were calculated assuming the maximum emissions case for new infrastructure comprised of third-party production, third-party storage, and transmission in each applicable Demand Scenario and throughput scenario. Design decisions that align more closely with the lower emissions infrastructure scenarios may yield a larger increase in overall NOx emissions reductions.

9.1 OVERALL END-USER DISCUSSION

Reductions in NOx emissions associated with the adoption of hydrogen increase each year from 2030 to 2045 for each of the three end-use sectors within each of the three Demand Scenarios and each of the three throughput scenarios. Of the three end-user sectors, the mobility sector makes up the bulk of the NOx emission reductions associated with the displacement of fossil fuels by hydrogen. There are three primary contributing factors. One factor is volume since hydrogen demand projections from the Demand Study are highest for mobility. Another factor is that the use of hydrogen in mobility produces zero NOx emissions as the hydrogen is in fuel cells. However, the use of hydrogen in the power generation and hard to electrify industrial sectors is assumed to be in internal and external combustion equipment which produces NOx emissions. Lastly, fossil fuel usage displaced by hydrogen in power generation and hard to electrify industrial sectors was natural gas whereas for mobility it was gasoline and diesel displacement. Emissions factors for NOx from diesel and gasoline combustion are generally higher than for natural gas, which may also contribute to the larger fraction of reductions estimated from mobility.

For stationary sources, there are a few high-level reasons to anticipate a reduction in NOx emissions over time and with the implementation of hydrogen combustion equipment. Air District emission limitations become stricter and decrease over time to support compliance with NAAQS and CAAQS, especially in areas designated as non-attainment.

As older equipment ages out, and newer equipment that is subject to these newer standards is installed, a reduction in emissions should occur. Manufacturers developing equipment to combust pure hydrogen fuel will need to meet the most recent regulatory emission limitations and standards when it comes to NOx emissions. The scientific literature shows that it is possible to design a burner that will have equal or fewer NOx emissions on a mass basis when combusting hydrogen as compared to natural gas or other fossil fuels. Therefore, it is anticipated that as older fossil fuel combustion units are replaced with new hydrogen combustion equipment required to meet the newest emission limitations and standards, a reduction in NOx emissions will be seen.

The Study assumed that technological advancements for combustion and emission controls would be in place so that the NOx emissions would stay the same or decrease with the combustion of hydrogen in equipment in the power generation and hard to electrify industrial sectors.

The study made a very conservative assumption that emission factors for stationary combustion sources will not change over the study period. Emissions factors for stationary combustion sources were developed based on most stringent existing emissions limitations, including BACT guidelines, for the geographic region at the time the calculations were performed. It is likely that these emissions limitations will decrease over time. Data on specific regulatory NOx emission limitation changes in the future was not available and thus emissions factors for stationary sources were held constant throughout the study timeframe.

There are numerous opportunities to minimize the formation of NOx emissions from hydrogen combustion through equipment design. The unique combustive properties of hydrogen allow manufacturers options to minimize the formation of NOx. Combustion expertise exists at equipment manufacturing companies to develop systems that will produce low NOx emissions when operated on pure hydrogen. It is anticipated that as the hydrogen market firms up, equipment development will accelerate, and low emission combustion systems specifically designed for pure hydrogen will start to emerge.[178]

9.1.1 Power Generation Discussion

A net reduction in NOx emissions from the displacement of fossil fuels by hydrogen as projected by the Demand Study for Power Generation was calculated for each of the three Demand Scenarios and each of the three Angeles Link Throughput Scenarios. The reductions in NOx emissions are relatively minor, and largely result from the correction factor approach used to correlate natural gas emissions factors to a hydrogen emissions factor. Using the correlation factor method, the mass-based emissions factor for pure hydrogen combustion is roughly 6% lower than the correlated emissions factor for natural gas. This leads to a roughly 6% reduction in mass emissions from combusting pure natural gas as compared to pure hydrogen. There is also the potential within the Power

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[178] McDonell, V., 2023b, personal communication, Ibid.

Generation sector to replace fossil fuel combustion technology with non-combustion technologies such as hydrogen fuel cells. This would lead to additional NOx emissions reductions.

The magnitude of the reduction in NOx emissions from the project scenario increases over time. This is likely due to multiple factors. One factor is the increasing projected hydrogen demand over the years. As the demand for hydrogen increases, more natural gas demand is displaced by hydrogen, and as mentioned above, the emissions factor for pure hydrogen demand is roughly 6% lower than the emissions factor for pure natural gas. Therefore, the more fuel demand for hydrogen, the more fuel combustion that is multiplied by the lower emissions factor, and the lower the overall NOx emissions. Particularly in gas turbines, which constitute most of the combustion equipment in power generation, research has shown that replacing natural gas with hydrogen may lead to a higher power output and slightly higher efficiency. This may in turn lead to a reduced NOx lb/kw-hr emissions factor.[179]

Another factor relates to blending. For the first few study years, it was assumed that combustion units in the peaker and baseload sub-sector would combust 27% hydrogen blends and, in the cogeneration sub-sector, they would combust 17% hydrogen blends. It was assumed that hydrogen combustion technology would improve over time, and that turbines would eventually combust 100% hydrogen. The amount of blending impacts the resultant formation of NOx emissions as the composition of fuel changes. The formation of NOx emissions is impacted by the proportion of natural gas to hydrogen in the fuels for stationary combustion sources.

Figure 19 below represents the energy obtained from pure hydrogen, blended hydrogen, pure natural gas, and blended natural gas from 2030 to 2045 for the project scenarios and the overall energy consumed from all fuel types. In Figure 22, blended hydrogen refers to hydrogen combusted in a blend of hydrogen and natural gas whereas blended natural gas is natural gas combusted in a blend of hydrogen and natural gas. These two categories are being presented separately since they represent different volumes and energy contents. Total energy consumption is represented in black at the top of the graph. This provides a visual representation of the decrease in blended hydrogen and natural gas anticipated to occur over time in the power generation sector.

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[179] Pyo, M., S. Moon, and T. Kim, 2021, A Comparative Feasibility Study of the Use of Hydrogen Produced from Surplus Wind Power for a Gas Turbine Combined Cycle Power Plant, Energies 14(24): 8342, https://doi.org/10.3390/en14248342

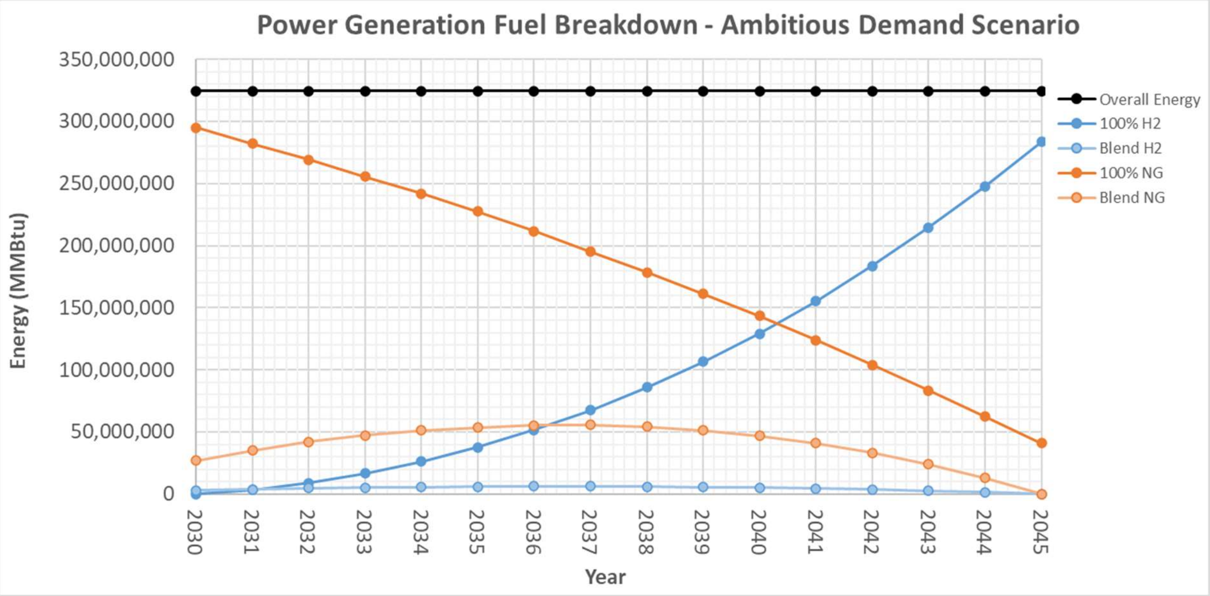

Figure 19: Energy (MMBtu) Obtained from Fuels for Power Generation Sector Ambitious Hydrogen Demand Scenario

The percentage of NOx mass emission (ton/year) reductions attributable to peaker and baseload decreases over time while the percentage of reductions attributable to cogeneration increases. This is attributable to an increase over time in the fraction of hydrogen demand in the power generation sector to cogeneration versus peaker and baseload. Cogeneration hydrogen demand is 15% of peaker and baseload hydrogen demand in 2030 and increases to 29% by 2045. Another contributing factor is the impact of the breakout of equipment types and their associated emissions factors.

9.1.2 Hard to Electrify Industrial Discussion

Similar to the power generation sector, overall NOx emissions reductions are calculated for each of the three Demand Scenarios and each of the three Angeles Link throughput scenarios for hard to electrify industrial end-users. The reductions in NOx emissions are relatively minor and result largely from the correction factor approach used to correlate natural gas emissions factors to a hydrogen emissions factor. Using the correction factor method, the emissions factor for hydrogen combustion is roughly 6% lower than the correlated emissions factor for natural gas. This leads to a roughly 6% reduction in mass emissions from combusting pure natural gas as compared to pure hydrogen. The volume of hydrogen that is blended with natural gas decreases throughout the study time frame.

The higher the percentage of hydrogen in the fuel, the greater the emissions reductions calculated.

The refinery sub-sector contributes to major reductions in NOx mass emissions in the ambitious Demand Scenario and high throughput scenario. For the year 2030 in the ambitious Demand Scenario and high throughput scenario, over 50% of the change in NOx mass emissions is attributable to the refinery sub-sector. However, the Demand Study did not consider demand from the refinery sub-sector in the conservative and moderate Demand Scenarios or the low and medium throughput scenarios. In 2018, refineries used 70% of the hydrogen produced in the United States to remove sulfur from petroleum products (hydrotreating) and breaking larger molecules into smaller, higher value molecules (hydrocracking).[180] Given the high demand for hydrogen in the refining sub-sector and their existing relationships with third-party suppliers, this industry is poised for a transition to clean renewable hydrogen if the economics became favorable for use in their hydrotreating and hydrocracking processes, or to begin fueling their combustion equipment.

The steel sub-sector is another industry with potential to transition to the use of clean renewable hydrogen in their operations. A large pilot project completed to test the use of pure electrolytic hydrogen in direct reduction of iron was successful.[181] Additional projects have been planned following the success of this pilot. Hydrogen-based direct reduced iron (DRI) and hydrogen blending in DRI or blast furnaces, have been important developments for the steel industry.

The food and beverage and stone, glass, cement hard to electrify industrial sub-sectors also account for a percentage of the change in NOx mass emissions. Both of these industries have high heat demands which contributes to an increase in their ability to transition to the use of hydrogen, and likelihood of transitioning to hydrogen as a preferred method of decarbonization compared with electricity. The Chemicals industry is a hard to electrify industrial sub-sector that contributes to a smaller percentage of the overall

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[180] Shell, 2017, Use and Optimization of Hydrogen at Oil Refineries, presentation by Aimee LaFleur, process engineer, at DOE's H2@Scale Workshop, University of Houston, May 23, https://www.energy.gov/sites/prod/files/2017/05/f34/fcto_may_2017_h2_scale_wkshp_lafleur.pdf

[181] International Energy Agency (IEA), 2019, The Future of Hydrogen – Seizing today's opportunities, report prepared for the G20 by the IEA, June, https://iea.blob.core.windows.net/assets/9e3a3493-b9a6-4b7d-b499-7ca48e357561/The_Future_of_Hydrogen.pdf

change/reduction in NOx mass emissions associated with the implementation of Angeles Link.

9.1.3 Mobility Discussion

Emission reductions associated with the displacement of gasoline and diesel fuels as projected by the Demand Study for each of the three Demand Scenarios and each of the three throughput scenarios were quantified for eight different sub-sectors within the mobility sector. NOx emission reductions from the displacement of fossil fuels with hydrogen were calculated using emissions factors developed from EMFAC model data and fossil fuel displacement volumes from the Demand Study. The Demand Study provided gasoline and diesel displacement volumes for these eight mobility sub-sectors. To calculate the gasoline and diesel displacement volumes for the three Angeles Link throughput scenarios, the gasoline and diesel displacement volumes were multiplied by the percentage of hydrogen demand to be supplied by Angeles Link in each throughput scenario.

The magnitude of emissions reductions from mobility increases over time as the projected hydrogen demand increases. However, during that time frame, emissions factors for fossil fuel combustion as developed from the EMFAC model decrease as EMFAC accounts for improvements in fuel efficiency and emissions control over time. Table 29 below provides the percent change in NOx emissions factors as developed by the EMFAC data from 2030 to 2045 for diesel and gasoline in each sub-sector for which emissions were calculated. As shown, NOx emission factors for each sub-sector and both fuel types decrease from 2030 to 2045. NOx emission factors from diesel combustion for HDV and gasoline combustion for construction and mining decrease the least during the study time frame.

Table 29
Percent Change in NOx Mobility Emissions Factors as Reductions from 2030 to 2045

Category	Diesel	Gasoline
MDV	-49.2%	-27.1%
HDV	-2.3%	-18.6%
Bus	-59.4%	-27.1%
Agriculture	-52.7%	-17.0%
CHC	-23.1%	NA
CHE	-76.4%	-0.1%
C&M	-36.9%	0.9%
GSE	-27.7%	-1.2%

The sub-sector, HDVs, contribute the largest total NOx mass emission reductions. The overall volume of hydrogen demand as projected by the Demand Study is the largest contributing variable to the percentage of reductions from each sub-sector. HDVs are anticipated to be an earlier adopter of hydrogen technology.

The sub-sector with the second largest percentage of overall NOx reductions is the bus sub-sector for 2030 and becomes the construction and mining sub-sector by 2045. The proportion of NOx reductions attributable to the bus sub-sector decreases over time, while the proportion of NOx reductions from construction and mining stays relatively constant over time. There are large regulatory drivers for the transition to ZEVs in the bus sub-sector, including the Innovative Clean Transit regulation that requires that 100% of new bus sales must emit zero emissions by 2029, and 100% of on-road transit buses must be ZEV by 2045, as well as the Zero Emission Airport Shuttle Rule requiring that 100% of on-road airport vehicles and equipment must be zero emission by 2035, where feasible.

Off-road sub-sectors currently have fewer regulatory pressures to transition to zero-emission vehicles. Executive Order N-79-20, signed in September of 2020, sets a goal of achieving 100% zero-emissions from off-road vehicles and equipment operations by 2035. However, this has not yet been developed into regulation for all off-road sub-sectors.

The remaining sub-sectors: agriculture, CHC, CHE, and GSE contribute less than 6.97% to overall NOx emission reductions. For GSE, Los Angeles World Airports (LAWA) has published the Ground Support Equipment Emissions Policy which sets NOx emission limitations for airport GSE. The Clean Air Action Plan for the Ports of Los Angeles and Long Beach sets a target for 100% zero-emission vehicles for CHE by 2030. For agriculture, the lack of existing commercially available hydrogen technology may hinder extensive reductions from hydrogen displacement of fossil fuels in the short term. CARB's Commercial Harbor Craft Regulation requires zero emission advanced technology (ZEAT) for new or replacement short-run ferries and excursion vessels after January 1, 2023.

9.1.4 Infrastructure Discussion

The emissions resulting from the operation of new infrastructure associated with third-party production, third-party storage, and transmission of hydrogen in the geographic region of this study are new emissions as this equipment does not currently exist. Facility and system designs have not yet been finalized for this new infrastructure. Therefore, different operational cases were evaluated to estimate potential emissions from research informed hypothetical infrastructure.

Total infrastructure account for a small percentage when compared with end-user emission reductions associated with the adoption of hydrogen. The NOx emissions from infrastructure in the maximum scenarios for the ambitious demand scenario and high throughput scenario equate to less than 8% and about 8%, respectively, of the magnitude of end-user reductions in 2045.

9.1.4.1 Third-Party Production Discussion

Three different production methods were proposed for the development of hydrogen to be delivered by Angeles Link; electrolysis driven by renewable electricity, biomass gasification, and biogas (renewable natural gas) used in steam methane reforming (SMR) where the external combustion unit is assumed to be driven by hydrogen. Based on research, it is assumed that no direct NOx emissions are formed during the processes of electrolysis by renewable electricity and biomass gasification. The proportion of hydrogen formed through each method is unknown at this time. Therefore, this study evaluated scenarios where 0%, 33%, and 100% of the hydrogen production was completed by SMR.

Calculations were run for each of these six cases, for each of the three Hydrogen Demand Scenarios and three Angeles Link Throughput Scenarios, yielding eighteen SMR NOx emissions cases for the Demand Scenarios and for the Throughput Scenarios. The estimated tons of NOx produced from external combustion on a unit of hydrogen production basis came out to 0.00000011 tons NOx per kg hydrogen produced in the maximum MMBtu/hr (this value was the same for each Hydrogen Demand Scenario and Angeles Link Throughput Scenario).

9.1.4.2 Third-Party Storage and Transmission Discussion

In each Hydrogen Demand Scenario and Angeles Link Throughput Scenario, the highest emissions scenario includes reciprocating engine as the power source and the storage pressure of 2,900 psi which corresponds to underground storage. The smallest emissions case for all scenarios was the use of electric motors to drive compressors, since using renewable electricity for powering these motors has no emissions.

For the storage and transmission scenarios with the highest emissions estimates, estimates for NOx emissions from storage and transmission are small in comparison to end-user emissions reductions. In the Ambitious Demand Scenario and High Throughput Scenario, assuming the highest NOx emissions case for storage and transmission, NOx emissions from storage and transmission account for 3.9% of total estimated end-user reductions associated with the displacement of fossil fuels by hydrogen as projected by the Demand Study in the year 2030, and this only increases to 5.2% by 2045.

10.0 OTHER AIR EMISSIONS

This study also provides a high-level analysis of anticipated reductions in particulate matter (PM), which is the primary pollutant associated with diesel combustion and, volatile organic compounds (VOC) emissions. For each displaced fossil fuel (natural gas, gasoline, and diesel) estimated emission reductions are provided. Displacement of fossil fuels results in lower PM and VOC emissions.

Diesel combustion is a known source of PM.[182] Hydrogen is a fuel that eliminates diesel particulate matter (DPM) when replacing diesel. VOCs are generally defined to include hydrocarbon compounds of propane and those that are larger than propane.[183] Hydrogen usage does not produce VOC emissions and VOC emissions are eliminated when replacing fossil fuels. Trace amounts of unburned hydrocarbons that are detected in exhaust gas are typically attributed to the complete and incomplete oxidation of lubricating oil within the engine rather than the hydrogen fuel itself.[184] Combustion of hydrogen fuel in stationary combustion sources has been shown to reduce these types of pollutants.[185]

When diesel, biogas, or natural gas are blended with hydrogen in a dual fuel system, there is a demonstrated decrease in pollutant emissions attributed to the enhanced combustion of gaseous fuel.[186] Additionally, the integration of hydrogen in a singular and

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[182] Wang, H., C. Cheng, Y. Lin, and K. Chen, 2012, Emission reductions of Air Pollutants from a Heavy-duty Diesel Engine Mixed with Various Amounts of H2/O2, Aerosol and Air Quality Research 12: 133–140, https://aaqr.org/articles/aaqr-11-08-oa-0122.pdf

[183] EPA, 2023c, What are volatile organic compounds (VOCs)?, EPA website, https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs

[184] Li, H. and G.A. Karim, 2005, Exhaust emissions from an SI engine operating on gaseous fuel mixtures containing hydrogen, International Journal of Hydrogen Energy 30(13–14): 1491-1499, https://doi.org/10.1016/j.ijhydene.2005.05.007

[185] Bose, P.K. and D. Maji, 2009, Ibid.

[186] Wang, H., et al., 2012, Emissions reductions, Ibid.

dual fuel configuration alongside Exhaust Gas Recirculation (EGR) techniques has been found to effectively reduce emissions of particulates[187] [188] [189] [190]

The EPA indicates that PM and VOC can have potential negative health effects. PM has been linked to irritation of the eyes and respiratory tract, asthma, bronchitis, heart attacks, and premature deaths.[191] VOCs themselves have the potential to cause irritation to the body or be toxic or carcinogenic. Outdoors, VOCs are a precursor to ozone (as are NOx and CO) which contributes to photochemical smog.[192] Ozone can result in irritation of the airways, cause difficulty breathing, and worsen the symptoms of lung diseases (asthma, emphysema, and chronic bronchitis).[193] Where hydrogen fuel substitution can reduce PM and VOC emissions, positive public health outcomes could be achieved.

South Coast AQMD developed the MATES Program with the goals of providing public information about air toxics and associated health risks, evaluating progress in reducing air toxics exposure, and providing direction to future toxics control programs. They published the MATES V Report in 2021 based on monitoring completed from 2018 through 2019. The study found that DPM was the largest contributor to air toxics cancer risk, accounting for 50% of the cancer risk by pollutant, and that the highest air toxics

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[187] Kosmadakis, G.M., C.D. Rakopoulos, J. Demuynck, M. De Paepe, and S. Verhelst, 2012, CFD modeling and experimental study of combustion and nitric oxide emissions in hydrogen-fueled spark-ignition engine operating in a very wide range of EGR rates, International Journal of Hydrogen Energy 37(14): 10917-10934, https://doi.org/10.1016/j.ijhydene.2012.04.067

[188] Mallouppas, G., et al., 2022, The Effect of Hydrogen Addition, Ibid.

[189] Bose, P.K. and D. Maji, 2009, Ibid.

[190] Saravanan, N., G. Nagarajan, K.M. Kalaiselvan, and C. Dhanasekaran, 2008, An experimental investigation on hydrogen as a dual fuel for diesel engine system with exhaust gas recirculation technique, Renewable Energy 33(3): 422-427, https://doi.org/10.1016/j.renene.2007.03.015

[191] EPA, 2024c, How Does PM Affect Human Health, agency webpage, https://www3.epa.gov/region1/airquality/pm-human-health.html#:~:text=Exposure%20to%20particle%20pollution%20can,%2C%20older%20people%2C%20and%20children

[192] EPA, 2024d, Technical Overview of Volatile Organic Compounds, agency webpage, https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds#definition

[193] EPA, 2024e, Health Effects of Ozone Pollution, agency webpage, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution

cancer risks were in and around the port areas, as well as along goods movement corridors and major freeways.[194]

10.1 PM AND VOC CALCULATION METHODOLOGY

A high-level evaluation was conducted of the potential particulate matter with a diameter of 2.5 micrometers or smaller ($PM_{2.5}$), particulate matter with a diameter of 10 micrometers or smaller (PM_{10}), and VOC emissions reductions associated with the use of hydrogen by end users as projected by the Demand Study and Angeles Link Throughput Scenarios. For this evaluation, it was assumed that hydrogen combustion would not produce PM or VOC emissions and thus the reductions associated with hydrogen were estimated as the emissions associated with fossil fuel displacement.

Emission factors obtained from EPA AP-42 were deemed the most appropriate source for estimating $PM_{2.5}$, PM_{10}, and VOC from stationary sources. Stationary sources encompass the hard to electrify industrial and power generation sectors, where hydrogen is assumed within this study to displace natural gas. Sections 1.4 External Combustion Sources, 3.1 Stationary Internal Combustion Sources, and 3.2 Stationary Internal Combustion Sources from AP-42 were used for PM and VOC emissions factors for external combustion sources, turbines, and reciprocating engines, respectively.[195] [196] [197] A single factor for reciprocating engines was developed using an average of factors for 2-stroke lean burn, 2-stroke rich burn, and 4-stroke lean burn engines. Based on documentation associated with these emissions factors, it was assumed that particulate

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[194] South Coast AQMD, 2023b, 2.Overview of Goals, Summary of Previous MATES Studies, and Projection Timeline, Presentation by S.A. Epstein, October 26, https://www.aqmd.gov/docs/default-source/planning/mates-vi/mates-tag-1-presentations.pdf?sfvrsn=8

[195] EPA, 1998, 1.4 Natural Gas Combustion in Compilation of Air Pollutant Emissions Factors from Stationary Sources (AP-42), Fifth Edition, Volume I Chapter 1: External Combustion Sources, July, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-fifth-edition-volume-i-chapter-1-external-0

[196] EPA, 2000a, 3.1 Stationary Gas Turbines in Compilation of Air Pollutant Emissions Factors from Stationary Sources (AP-42), Fifth Edition, Volume I Chapter 3: Stationary Internal Combustion Sources, April, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-fifth-edition-volume-i-chapter-3-stationary-0

[197] EPA, 2000b, 3.2 Natural Gas-fired Reciprocating Engines in Compilation of Air Pollutant Emissions Factors from Stationary Sources (AP-42), Fifth Edition, Volume I Chapter 3: Stationary Internal Combustion Sources, August, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-fifth-edition-volume-i-chapter-3-stationary-0

matter associated with natural gas combustion would be less than 2.5 microns. As a result, total PM emissions from natural gas combustion would be equivalent to PM_{10} and $PM_{2.5}$. Sector-level, equipment-weighted factors for PM and VOC were developed using sector-level equipment throughput fractions using the same methodology as NO_x emissions factors. The table below depicts the PM and VOC emissions factors for stationary sources that were used. Avoided emissions from stationary sources were then calculated by multiplying these sector-specific emissions factors by annual natural gas displaced by hydrogen.

Table 30
Stationary Source Equipment Fuel Percentages and Emissions Factors for PM and VOC

CARB Sector	Sub-Sector	Equipment Category	Throughput (%)	PM EF (lb/ MMBtu)	VOC EF (lb/ MMBtu)	AP-42 Sec	Note
Electric Utilities	Baseload and Peaker	External Combustion	5.7%	0.0071	0.0051	1.4	Single Factor
		Reciprocating Engine	0.1%	0.0258	0.0892	3.2	Average of Multiple (2SLB, 2SRB, 4SLB) Sum of filterable and condensable
		Turbine	94.2%	0.0066	0.0021	3.1	Single Factor
Cogeneration	Cogeneration	General External Combustion	0.8%	0.0071	0.0051	1.4	Single Factor
		Reciprocating Engine	0.2%	0.0258	0.0892	3.2	Average of Multiple (2SLB, 2SRB, 4SLB) Sum of

Table 30
Stationary Source Equipment Fuel Percentages and Emissions Factors for PM and VOC

CARB Sector	Sub-Sector	Equipment Category	Throu-ghput (%)	PM EF (lb/ MMBtu)	VOC EF (lb/ MMBtu)	AP-42 Sec	Note
							filterable and condensable
		Turbine	99.0%	0.0066	0.0021	3.1	Single Factor
Food and Beverage	Food and Beverage	General External Combustion	98.6%	0.0071	0.0051	1.4	Single Factor
		Oven	0.1%	0.0071	0.0051	1.4	Single Factor
		Reciprocating Engine	1.1%	0.0258	0.0892	3.2	Average of Multiple (2SLB, 2SRB, 4SLB) Sum of filterable and condensable
		Turbine	0.3%	0.0066	0.0021	3.1	Single Factor
Manufacturing and Industrial	Metals, Stone, Glass, Cement	General External Combustion	81.2%	0.0071	0.0051	1.4	Single Factor
		Oven	0.2%	0.0071	0.0051	1.4	Single Factor
		Reciprocating Engine	12.8%	0.0258	0.0892	3.2	Average of Multiple (2SLB, 2SRB, 4SLB) Sum of

Table 30 Stationary Source Equipment Fuel Percentages and Emissions Factors for PM and VOC							
CARB Sector	**Sub-Sector**	**Equipment Category**	**Throu-ghput (%)**	**PM EF (lb/ MMBtu)**	**VOC EF (lb/ MMBtu)**	**AP-42 Sec**	**Note**
							filterable and condensable
		Turbine	5.8%	0.0066	0.0021	3.1	Single Factor
Refining	Refineries	General External Combustion	21.2%	0.0071	0.0051	1.4	Single Factor
		Reciprocating Engine	0.2%	0.0258	0.0892	3.2	Average of Multiple (2SLB, 2SRB, 4SLB) Sum of filterable and condensable
		Turbine	78.6%	0.0066	0.0021	3.1	Single Factor

Mobile $PM_{2.5}$, PM_{10}, and VOC emissions were estimated using factors developed from CARB's EMFAC database. Mobile sources encompass the mobility sector where hydrogen would displace gasoline and diesel fuels. The EMFAC on-road and off-road emissions models were used to develop individual emissions factors for each mobility sub-sector by fuel type and year. These factors were developed by weighting the tons of pollutant per gallon of fuel consumed for each vehicle category by the percentage of the sub-sectors' fuel consumption attributable to that vehicle category.

Diesel particulate matter (DPM) was also assessed and DPM is solid material in diesel combustion exhaust. DPM is a subset of $PM_{2.5}$.[198] For the purposes of this study, the assumption was made that all $PM_{2.5}$ from diesel combustion was DPM. Table 31 below depicts a summary of the average $PM_{2.5}$, PM_{10}, and VOC emissions factors for mobile sources. Avoided emissions from mobile sources were then calculated by multiplying these emission factors by annual mobility source-level fuel displacement.

Table 31
Mobility PM and VOC Emissions Factors

Sub-Sector	Fuel	Avg PM2.5 (ton/gal)	Avg PM10 (ton/gal)	Avg VOC (ton/gal)
MDV	Diesel	5.79784E-07	1.37309E-06	6.877120E-07
HDV	Diesel	5.13424E-07	1.16467E-06	4.525510E-07
Bus	Diesel	3.71824E-07	8.153E-07	4.316530E-07
Agriculture	Diesel	1.63835E-07	1.78101E-07	6.203640E-07
CHC	Diesel	4.21733E-07	4.41143E-07	2.701390E-06
CHE	Diesel	4.09287E-07	4.44842E-07	4.566850E-07
C&M	Diesel	5.62213E-07	6.24906E-07	4.066440E-07
GSE	Diesel	4.73703E-06	5.14895E-07	3.887810E-06
MDV	Gasoline	4.02406E-07	1.15658E-07	2.91013E-06
HDV	Gasoline	1.96824E-07	5.83383E-07	2.18934E-06
Bus	Gasoline	2.0225E-07	5.84393E-07	2.58640E-06
Agriculture	Gasoline	3.00707E-07	3.26856E-07	6.756950E-05
CHE	Gasoline	8.9181E-07	9.69352E-07	3.60713E-06
C&M	Gasoline	2.56347E-05	3.39282E-05	0.000104656
GSE	Gasoline	4.715E-07	6.24044E-07	5.47814E-06

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[198] CARB, 2024a, Overview: Diesel Exhaust and Health, CARB webpage, https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health

The above table provides the average emissions factor for the fifteen years of the study time frame. However, emissions factors were developed and utilized for each individual year. The table below illustrates how the emissions factor for each sub-sector and fuel type changed throughout the study time frame from 2030 to 2045. The largest decreases in emissions factors throughout the study time frame come from diesel combustion.

Table 32
Change in Diesel PM2.5 and PM10 EMFAC Emissions Factors from 2030 to 2045

Sub-Sector	Fuel	PM2.5	PM10	VOC
MDV	Diesel	-12%	-5%	-36%
HDV	Diesel	12%	14%	9%
Bus	Diesel	-24%	-8%	-57%
Agriculture	Diesel	-60%	-60%	-40%
CHC	Diesel	-65%	-65%	-38%
CHE	Diesel	-69%	-69%	-10%
C&M	Diesel	-53%	-52%	-2%
GSE	Diesel	-53%	-53%	4%
MDV	Gasoline	12%	12%	0%
HDV	Gasoline	18%	18%	-16%
Bus	Gasoline	37%	36%	27%
Agriculture	Gasoline	-7%	-7%	-13%
CHE	Gasoline	0%	0%	0%
C&M	Gasoline	2%	2%	2%
GSE	Gasoline	0%	0%	-2%

10.2 PM AND VOC RESULTS

Tables 33A to 36B below illustrate the estimated annual reduction in $PM_{2.5}$, PM_{10} emissions from each fuel type for the years 2030, 2035, 2040, and 2045. DPM is represented by $PM_{2.5}$ from diesel combustion. The first two tables represent PM reductions associated with the market demand of hydrogen in the conservative and ambitious Demand scenarios, and then tables represent the PM reductions associated with the hydrogen supplied by Angeles Link in the low and high throughput scenarios.

Table 33A
Hydrogen Conservative Demand Scenario - Annual PM2.5 Reductions by Sector and Fuel Type

	Diesel DPM PM2.5		**Gasoline PM2.5**		**Natural Gas PM2.5**	
Year	**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**
2030	22	4	9	23	23	3
2035	114	11	31	128	37	38
2040	241	17	70	240	46	118
2045	400	22	105	327	54	250

Table 33B
Hydrogen Conservative Demand Scenario - Annual PM10 Reductions by Sector and Fuel Type

	Diesel PM10		Gasoline PM10		Natural Gas PM10	
Year	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	50	4	25	30	23	3
2035	258	12	90	168	37	38
2040	551	19	202	316	46	118
2045	919	24	303	429	54	250

Table 34A
Hydrogen Ambitious Demand Scenario - Annual PM2.5 Reductions by Sector and Fuel Type

	Diesel DPM PM2.5		Gasoline PM2.5		Natural Gas PM2.5	
Year	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	127	10	33	88	77	10
2035	298	21	62	204	130	144
2040	477	26	102	307	169	446
2045	627	30	139	400	201	943

Table 34B
Hydrogen Ambitious Demand Scenario - Annual PM10 Reductions by Sector and Fuel Type

Year	Diesel PM10		Gasoline PM10		Natural Gas PM10	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	285	11	94	116	77	10
2035	675	22	178	267	130	144
2040	1093	29	295	403	169	446
2045	1439	33	400	524	201	943

Table 35A
Hydrogen Low Throughput Scenario - Annual PM2.5 Reductions by Sector and Fuel Type

Year	Diesel DPM PM2.5		Gasoline PM2.5		Natural Gas PM2.5	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	6	1	2	6	6	1
2035	30	3	8	34	10	10
2040	65	5	19	65	12	32
2045	107	6	28	88	14	67

Table 35B
Hydrogen Low Throughput Scenario - Annual PM10 Reductions by Sector and Fuel Type

Year	Diesel PM10		Gasoline PM10		Natural Gas PM10	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	13	1	7	8	6	1
2035	69	3	24	45	10	10
2040	148	5	54	85	12	32
2045	247	7	81	115	14	67

Table 36A
Hydrogen High Throughput Scenario - Annual PM2.5 Reductions by Sector and Fuel Type

Year	Diesel DPM PM2.5		Gasoline PM2.5		Natural Gas PM2.5	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	32	3	8	22	19	2
2035	75	5	16	52	33	37
2040	121	7	26	78	43	113
2045	159	8	35	101	51	239

Table 36B
Hydrogen High Throughput Scenario - Annual PM10 Reductions by Sector and Fuel Type

Year	Diesel PM10		Gasoline PM10		Natural Gas PM10	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Gen
2030	72	3	24	29	19	2
2035	171	6	45	68	33	37
2040	277	7	75	102	43	113
2045	365	8	101	133	51	239

Tables 37 to 40 below summarize the results of the estimated VOC reductions by fuel type for hydrogen displacement of diesel, gasoline, and natural gas. The results are presented for the conservative and ambitious Demand Scenarios and the low and high throughput scenarios in 2030, 2035, 2040, and 2045. These tables also differentiate between on-road and off-road emission reductions for the mobility sector for diesel and gasoline displacement.

Table 37
Conservative Demand Scenario - Annual VOC Reductions by Sector and Fuel Type

Year	Diesel VOC (tpy)		Gasoline VOC (tpy)		Natural Gas VOC (tpy)	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Generation
2030	22	15	113	100	33	1
2035	105	61	381	539	54	13
2040	217	127	902	1,011	68	42
2045	357	182	1,201	1,397	79	88

Table 38
Ambitious Demand Scenario - Annual VOC Reductions by Sector and Fuel Type

Year	Diesel VOC (tpy)		Gasoline VOC (tpy)		Natural Gas VOC (tpy)	
	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Generation
2030	124	45	425	372	61	3
2035	273	112	763	867	105	51
2040	428	187	1,312	1,303	136	157
2045	559	239	1,585	1,717	164	332

Table 39 Low Throughput Scenario - Annual VOC Reductions by Sector and Fuel Type						
	Diesel VOC (tpy)		Gasoline VOC (tpy)		Natural Gas VOC (tpy)	
Year	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Generation
2030	6	4	30	27	9	0.2
2035	28	16	102	145	14	4
2040	58	34	242	272	18	11
2045	96	49	323	375	21	24

Table 40 High Throughput Scenario - Annual VOC Reductions by Sector and Fuel Type						
	Diesel VOC (tpy)		Gasoline VOC (tpy)		Natural Gas VOC (tpy)	
Year	Mobility On-Road	Mobility Off-Road	Mobility On-Road	Mobility Off-Road	Industrial	Power Generation
2030	6	4	30	27	15	1
2035	28	16	102	145	27	13
2040	58	34	242	272	35	40
2045	96	49	323	375	42	84

Tables 41 to 46 below provide additional detail regarding the annual tons of $PM_{2.5}$, PM_{10}, and VOC displaced by hydrogen in mobility sector for the conservative, moderate, and ambitious Demand Scenarios and the low, medium, and high throughput scenarios in 2030, 2035, 2040, and 2045. These tables also indicate the percentage of these emission reductions attributable to on-road and off-road sources. Where applicable, these tables also include the percentage of PM emissions that are attributable to DPM. As depicted in each of these tables, $PM_{2.5}$, PM_{10}, and VOC annual reductions in the mobility sector increase over time as hydrogen demand increases despite a decrease over time in some of the emissions factors. For $PM_{2.5}$ and PM_{10}, on-road sources contribute a larger share of emissions than off-road sources. The relative contribution of on-road and off-road sources to VOC fluctuates, but each contributes approximately half of total VOC emissions reductions.

Table 41
Hydrogen Demand Scenarios - Mobility Annual PM2.5 Displacement

Year	Conservative				Ambitious			
	PM2.5 (tpy)	On-road	Off-road	DPM	PM2.5 (tpy)	On-road	Off-road	DPM
2030	58	54%	46%	45%	258	62%	38%	53%
2035	283	51%	49%	44%	584	62%	38%	55%
2040	568	55%	45%	45%	913	63%	37%	55%
2045	855	59%	41%	49%	1,196	64%	36%	55%

Table 42
Hydrogen Throughput Scenarios - Mobility Annual PM2.5 Displacement

Year	Conservative				Ambitious			
	PM2.5 (tpy)	On-road	Off-road	DPM	PM2.5 (tpy)	On-road	Off-road	DPM
2030	16	54%	46%	45%	65	62%	38%	53%
2035	76	51%	49%	44%	148	62%	38%	55%
2040	153	55%	45%	45%	232	63%	37%	55%
2045	229	59%	41%	49%	303	64%	36%	55%

Table 43
Hydrogen Demand Scenarios - Mobility Annual PM10 Displacement

Year	Conservative				Ambitious			
	PM10 (tpy)	On-road	Off-road	DPM	PM10 (tpy)	On-road	Off-road	DPM
2030	109	69%	31%	24%	506	75%	25%	27%
2035	527	66%	34%	24%	1,143	75%	25%	28%
2040	1,088	69%	31%	24%	1,819	76%	24%	28%
2045	1,675	73%	27%	25%	2,396	77%	23%	27%

Table 44
Hydrogen Throughput Scenarios - Mobility Annual PM10 Displacement

Year	Conservative				Ambitious			
	PM10 (tpy)	On-road	Off-road	DPM	PM10 (tpy)	On-road	Off-road	DPM
2030	29	69%	31%	24%	128	75%	25%	27%
2035	141	66%	34%	24%	290	75%	25%	28%
2040	292	69%	31%	24%	461	76%	24%	28%
2045	450	73%	27%	25%	608	77%	23%	27%

Table 45
Hydrogen Demand Scenarios - Mobility Annual VOC Displacement

Year	Conservative			Moderate			Ambitious		
	VOC (tpy)	On-road	Off-road	VOC (tpy)	On-road	Off-road	VOC (tpy)	On-road	Off-road
2030	250	54%	46%	538	54%	46%	966	57%	43%
2035	1,086	45%	55%	1,464	47%	53%	2,015	51%	49%
2040	2,258	50%	50%	2,677	51%	49%	3,230	54%	46%
2045	3,137	50%	50%	3,570	51%	49%	4,099	52%	48%

Table 46
Hydrogen Throughput Scenarios - Mobility Annual VOC Displacement

Year	Conservative			Moderate			Ambitious		
	VOC (tpy)	On-road	Off-road	VOC (tpy)	On-road	Off-road	VOC (tpy)	On-road	Off-road
2030	67	54%	46%	167	54%	46%	245	57%	43%
2035	292	45%	55%	456	47%	53%	511	51%	49%
2040	606	50%	50%	833	51%	49%	819	54%	46%
2045	842	50%	50%	1,111	51%	49%	1,040	52%	48%

11.0 CONCLUSIONS

The NOx and other air emission estimates were developed from data from both the Demand Study Demand Scenarios and Angeles Link Throughput Scenarios. The emission estimates associated with Angeles Link set forth in this study are for informative purposes for Phase 1. As more information becomes available, emissions estimates can be further refined. This study acknowledges that limited data exists in the literature for actual measurements of NOx emissions associated with combustion of clean renewable hydrogen and that combustion technology and post-combustion treatment technology is anticipated to develop over time. As refinements have been made for natural gas combustion over the past decades, it is anticipated that developments will similarly be made for hydrogen combustion to minimize NOx emissions. The design details of the infrastructure, as well as further project refinements will inform future quantification estimates for NOx emissions and NOx minimization opportunities.

11.1 KEY FINDINGS

Key findings for NOx and other air emission reductions based on Demand Study Scenarios and Angeles Link Throughput Scenarios are as follows.

- In 2030, the Ambitious Demand Scenario estimates approximately 5,240 ton/year NOx reductions as shown in Table 6, associated with the displacement of fossil fuels by hydrogen for end-users minus emissions from infrastructure associated with third-party production, third-party storage, and transmission of hydrogen. Based on throughput values for Angeles Link, the High Throughput Scenario estimates that Angeles Link could supply 25.36% of the overall hydrogen demand project by the Demand Study. Therefore, overall NO_x emissions reductions associated with the Angeles Link High Throughput Scenario in 2030 are estimated at 1,329 tons per year as shown in Table 14. This value of 1,329 tons of NOx per year is the same as 23% of the NOx reductions South Coast Air Quality Management District (South Coast AQMD) has proposed to be achieved by 2037 for total stationary commercial and large combustion source NOx control measures in their 2022 AQMP.[199]

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[199] South Coast AQMD, 2022a, Ibid.

- In 2045, the Ambitious Demand Scenario estimates NOx emissions reductions of 20,529 tons/year (as shown in Table 6) associated with the displacement of fossil fuels by hydrogen for end-users minus emissions from new infrastructure associated with the third-party production, third-party storage, and transmission of hydrogen demand. Based on throughput values for Angeles Link, the High Throughput Scenario estimates that Angeles Link could supply 25.36% of the overall hydrogen demand. Therefore, overall NO_x emissions reductions associated with the Angeles Link High Throughput Scenario in 2045 are estimated at 5,206 tons per year. This value of 5,206 tons of NOx per year is the same as 90% of the NOx reductions South Coast AQMD has proposed to be achieved by 2037 for total stationary commercial and large combustion source NOx control measures in their 2022 AQMP.[200]

- Of the three end-user sectors, the mobility sector makes up the bulk of the NO_x emissions reductions (over 99% in the ambitious Demand Scenario). This parallels the 2018 emissions inventory used by South Coast AQMD in their 2022 AQMP which shows that 85% of emissions in the South Coast AQMD are from mobile sources and 15% are from stationary sources. Mobility NOx emissions (e.g., primarily heavy-duty transportation) is expected to be reduced with the conversion to zero emission vehicles (ZEVs). Options for ZEVs include hydrogen fuel cell electric vehicles (FCEVs) and battery electric vehicles (BEVs). The Demand Study projected the anticipated fossil fuel displacement associated with FCEVs only. The associated NOx reductions were estimated only for conversion to FCEVs; this study does not project emission reductions related to fossil fuel displacement that will be associated with BEVs. Since BEVs are not potential end users of Angeles Link, analysis related to BEVs is beyond the scope of this NOx Study.
    - The study assumes that hydrogen is utilized in fuel cells in the mobility sector, and in combustion units for stationary applications within power generation and hard to electrify Industrial sectors. The use of hydrogen in fuel cells produces zero NO_x emissions, while the combustion of hydrogen does have the potential to form NO_x emissions.

- A relatively small reduction in NO_x emissions is expected from combusting hydrogen as compared to pure natural gas. The difference in NO_x emissions from the combustion of hydrogen fuel compared to fossil fuels is attributable to differences

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[200] South Coast AQMD, 2022a, Ibid.

between NOx emission factors for hydrogen fuel as compared to NOx emission factors for natural gas. Current research into the scientific literature supports the potential for a reduction in NO_x emissions when transitioning from the combustion of fossil fuels to hydrogen fuels as 1) hydrogen has the potential to combust at a wider range of air to fuel ratios and lower temperatures than fossil fuels, 2) there are potentially favorable differences in the thermodynamic efficiency of hydrogen in turbines as compared to natural gas, and 3) certain burner technologies have proven experimentally to emit lower NO_x emissions from hydrogen combustion as compared to natural gas combustion. Since current data and scientific research is still evolving, the Study takes a conservative approach to estimating NOx and other air emissions.

- In the power generation sector, the estimated NO_x reductions associated with market adoption of hydrogen are approximately 0.7 ton/year in 2030 and up to approximately 72 ton/year in 2045 based on the Ambitious Demand Scenario. The bulk of the expected reductions from Power Generation (e.g. over 80%) are attributed to the peaker and baseload sub-sector for all years. Expected emissions reductions associated with Angeles Link in the power generation sector in 2030 are roughly 0.2 tons per year, and in 2045 are roughly 18.2 tons per year based on the Angeles Link High Throughput Scenario.

- In hard to electrify industrial sectors, the estimated NO_x reductions associated with market adoption of hydrogen are 7 ton/year in 2030 and 19 ton/year in 2045 using the Ambitious Demand Scenario. In the Ambitious Demand and High Throughput Scenarios, refineries account for the largest reductions (e.g. 52.2% Ambitious, 2030), followed by Stone, Glass, Cement (18.4% Ambitious, 2030), Food and Beverage (17.4% Ambitious, 2030), and Metals (8.1% Ambitious, 2030). Please note that refineries are only considered in the Ambitious Demand Scenario and refineries comprise about one-quarter of the Demand in this scenario. These percentages are not expected to change much between 2030 and 2045. Expected emissions reductions associated with the Hard to Electrify Industrial sector in 2030 are roughly 1.9 tons per year, and in 2045 are roughly 4.9 tons per year using the Angeles Link High Throughput Scenario.

- In the Mobility sector, the estimated NO_x reductions associated with market adoption of hydrogen are roughly 5,600 ton/year in 2030 and 22,000 ton/year in 2045 using the Ambitious Demand Scenario. The largest percentage of overall NO_x reductions associated with market adoption of hydrogen in the Mobility sector in the Ambitious

Demand and High Throughput Scenarios are attributable to heavy-duty vehicles (e.g. 69.1% in 2030 and 77.4% in 2045), followed by buses (exceeded by construction and mining by 2045) (14.2% in 2030 and 5.6% in 2045), construction and mining vehicles(6.8% in 2030 and 6.7% in 2045), and then medium-duty vehicles (6.4% in 2030 and 4.4% in 2045). Three of the top four sub-sectors contributing the greatest magnitude of NO_x emissions reductions are the three on-road sub-sectors. The magnitude of reductions from the collective on-road sub-sectors is much greater than the magnitude of reductions from the collective off-road sub-sectors. The largest variable impacting the magnitude of emissions reductions from on-road versus off-road vehicles is the estimated volume of fossil fuels displaced as projected by the Demand Study. Expected emission reductions associated with the Mobility sector in 2030 are roughly 1,400 tons per year, and in 2045 are roughly 5,660 tons per year, using the Angeles Link High Throughput Scenario

- Based on currently available information, new infrastructure potential emissions account for a relatively small percentage when compared with end-user emissions reductions. In 2030 the infrastructure NO_x emissions associated with the market adoption of hydrogen are estimated to be approximately 360 tons/year, which accounts for 6% of the total estimated NO_x reductions from end-users associated with the Ambitious hydrogen demand projections (2030) from the Demand Study. In the same scenario for the year 2045, infrastructure NO_x emissions are approximately 1,900 tons/year, which accounts for about 8% of total NO_x reductions from end-users associated with the Ambitious Demand Scenario projections (2045) from the Demand Study. Based on the High Throughput Scenario for Angeles Link, new infrastructure emissions in the maximum emissions scenario for 2030 are estimated at 91 tons per year of NO_x, and for 2045 are estimated at 481 tons per year of NO_x.

- The estimated annual reductions in $PM_{2.5}$ and PM_{10} emissions associated with end-users displacing fossil fuels with hydrogen fuel are estimated at approximately 2,339 and 3,539 tons, respectively, for 2045 in the Ambitious Demand Scenario. The South Coast Air Quality Management District (South Coast AQMD) projects annual $PM_{2.5}$ emissions in 2037 to be approximately 60.08 tons/day, PM_{10} to be 173.63 tons/day, and total PM to be 298.51 tons/day. This yields $PM_{2.5}$ emissions of 21,929 tons and PM_{10} emissions of 63,375 tons for the year 2037. Therefore, the estimated annual average reductions in $PM_{2.5}$ and PM_{10} emissions in the South Coast AQMD for the market adoption of hydrogen are potentially up to 11% and 6%, respectively. The total reductions in $PM_{2.5}$ and PM_{10} emissions associated with the Angeles Link High Throughput Scenario in 2045 are about 593 and 898 tons per year, respectively. These values are about 3% and 1% of projected 2037 $PM_{2.5}$ and PM_{10} emissions in the South Coast AQMD, respectively.

- Hydrogen is a non-carbon containing fuel that eliminates diesel particular matter (DPM) when replacing diesel fuel. Studies indicate that hydrogen fuel substitution of non-diesel fossil fuels almost entirely reduces PM emissions in spark-ignited engines and turbines. DPM reductions from the displacement of diesel fuel with hydrogen fuel in the Ambitious Demand Scenario are estimated to be approximately 656.37 tons per year by 2045.
- Hydrogen usage is not known to produce direct VOC emissions and VOC may be eliminated by replacing fossil fuels with hydrogen fuel. A reduction in VOC emissions associated with end-users displacing fossil fuels with hydrogen fuel as projected by the Demand Study was estimated at approximately 4,595 tons by 2045 in the Ambitious Demand Scenario. The South Coast AQMD projects their annual VOC emissions in 2037 to be 120,335 tons.[201] Therefore, the annual average reductions in VOC emissions estimated by the market adoption of hydrogen are about 3.8% of the VOC emissions in the South Coast AQMD region. The estimated reductions in VOC emissions associated with the Angeles Link High Throughput Scenario are roughly 1165.3 tons per year in 2045.

Emissions Minimization Opportunities: Opportunities to minimize NOx emissions or measures to reduce NOx emissions can be implemented to reduce NOx emissions, including with equipment design, control of combustion temperature, and application of existing and emerging aftertreatment technologies. Existing technologies include selective catalytic reduction (SCR), selective non-catalytic reduction (SNCR), and non-selective catalytic reduction (NSCR), while emerging technologies include electron beam irradiation and electrochemical reduction.

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[201] South Coast AQMD, 2022b, 2022 Air Quality Management Plan Appendix III Base and Future Year Emission Inventory, Adopted December 2, https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-iii.pdf?sfvrsn=6

11.2 UNCERTAINTY

11.2.1 Third-Party Production

Specific design details for hydrogen third party production that would be transported by the Angeles Link system was not currently available when the calculations in this study were computed. Details on the specific process intended for use in producing hydrogen that could be transported by Angeles Link, additional design details for the hydrogen production process, and proportions of hydrogen intended to be produced from different methods, if more than one method is used, would reduce the uncertainty within the hydrogen production emissions estimates.

The evaluation of NOx emissions associated with water conveyance or transportation of materials such as biomass to production sites or biomass feed preparation are not included in this Study as these details are beyond the scope of the Phase 1 feasibility studies. For example, this Study assumed that biomass would be procured ready for combustion and removal of moisture would not be required on-site.

Estimates were developed based on hypothetical electrolysis, biomass gasification, and biogas in steam methane reforming scenarios where the combustion equipment is fueled by hydrogen. More accurate emissions estimates can be made for hydrogen production once designs for those production facilities are further along.

11.2.2 Third-Party Storage and Transmission

Designs for the third-party storage and Angeles Link's transmission system were not completed before the finalization of the calculations in this study. Details regarding quantity of hydrogen storage, location, and types (aboveground versus underground) of storage will inform refinement of these initial estimates. Additionally, distances and locations of transmission pipelines will also provide details to refine the emission estimates. Once final designs are completed, more accurate emissions estimates can be made for the third-party storage and Angeles Link transmission system.

11.2.3 Mobility

Fossil fuel displacement volumes for diesel and gasoline from the Demand Study were utilized in the calculations within this study directly as provided. NOx emissions factors for each of the mobility sub-sectors were calculated based on projected emissions and fuel consumption from the current EMFAC model. The EMFAC model may be updated in the future and it is uncertain how these emissions factors may change in the future.

11.2.4 Power Generation and Hard to Electrify Industrial

Fossil fuel displacement volumes for natural gas from the Demand Study were utilized in the calculations. Since the Demand Study did not include projections for the commercial or residential end use sectors, the NOx Study does not include associated NOx emission estimates.

A source of uncertainty within the stationary combustion calculations for this study was the lack of manufacturers emissions data and stack testing data for pure hydrogen combustion. There is minimal existing emissions data for pure hydrogen combustion as the technology is largely still in development. Of the hydrogen combustion data that is available, most tests were not completed for pure hydrogen combustion, and there is a large variation in emission results. As technology is improved, and more data is available, more specific emissions factors may be developed for NOx emissions from the combustion of pure hydrogen.

Natural gas displaced by hydrogen and hydrogen demand projections were provided by the Demand Study and utilized in the calculations within this study as provided. Current California BACT guidelines and emission limitations for the geographic region were utilized to develop NOx emissions estimates within this study. It is likely that emissions limitations and BACT guidelines will decrease over time, as has been seen historically. However, there are many variables that may impact future reductions in emissions limitations and to minimize uncertainty, this study did not attempt to estimate how emissions limitations will decrease or change in the future.

The heat input rating for a combustion unit is the amount of fuel the unit will burn, typically provided in Btu/hour. The energy content of different fuels in Btu/volume varies. For example, for hydrogen the energy content is roughly 134,510 Btu/kg (HHV 60920 Btu/lb), while gasoline is roughly 117,500 Btu/gallon (HHV 19948 Btu/lb), and diesel is 137,500 Btu/gallon (HHV 19604 Btu/lb). The actual heat input for a combustion unit may vary depending on the type of fuel used. This causes uncertainty to arise when estimating the impact of fuel swapping on the produced emissions from combustion. For the purposes of this study, the same heat input rating and efficiency as existing power generation equipment was assumed. It should be noted that some studies have found that hydrogen turbines can operate at higher efficiencies than natural gas turbines.

There is uncertainty in the correction factor calculation approach for converting natural gas emissions to a representative value for hydrogen. A source of uncertainty in this approach is the lack of information about how oxygen levels in the exhaust gas may vary between natural gas, hydrogen, and blends. In this study, it was assumed that a particular type of equipment combusting natural gas, hydrogen, or a blend would have the same exhaust oxygen concentration for all fuels. In-practice combustion characteristics for hydrogen turbines may result in higher or lower exhaust oxygen concentrations than what is observed in natural gas equipment. If exhaust oxygen concentration is higher for hydrogen than natural gas, emissions from hydrogen will increase compared to what is forecasted in this study. Using this study's calculation methods, an exhaust oxygen content for hydrogen of 16% versus 15% for natural gas would result in greater NOx emissions from hydrogen than natural gas.

11.3 LIMITATIONS

This Study does not include an air quality impact analysis for NOx emissions as this was beyond the scope of this Phase 1 feasibility study.

Although several maps have been prepared that identify the projected NOx emissions reductions, as well as maps that identify Environmental Justice Communities, and have been included in Appendix C, a cumulative impacts analysis was beyond the scope of this Phase 1 feasibility study and would be part of a future CEQA analysis.

12.0 STAKEHOLDER FEEDBACK

SoCalGas presented opportunities for the PAG and CBOSG to provide feedback at four key milestones in the course of conducting this study: (1) the draft description of the Scope of Work, (2) the draft Technical Approach, (3) Preliminary Data and Findings, and (4) the Draft Reports. These milestones were selected because they are critical points at which relevant feedback can meaningfully influence the study.

Table 47
Key Milestone Dates

Milestone	Date Provided to PAG/CBOSG	Comment Due Date	Responses to Comments in Quarterly Report[202]
1. Scope of Work	7/6/2023	7/31/2023	Q2 2023
2. Technical Approach	9/7/2023	10/20/2023	Q4 2023
3. Preliminary Data and Findings	2/27/2024	3/29/2024	Q1 2024
4. Draft Report	7/8/2024	8/14/2024	Q3 2024

Feedback provided at the PAG/CBOSG meetings is memorialized in the transcripts of the meeting. Written feedback received is included in the quarterly reports, along with responses. Meeting transcripts are also included in the quarterly reports. The quarterly reports are submitted to the CPUC and are published on SoCalGas's website.

Feedback was incorporated as applicable at each milestone throughout the progression of the study. Some feedback was not incorporated for various reasons, including feedback that was outside the scope of the Phase 1 Decision or feasibility study, and feedback that raises issues better suited for third parties to address.

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[202] Each Quarterly Report can be accessed at https://www.socalgas.com/sustainability/hydrogen/angeles-link

In response to feedback received following SoCalGas's presentation of the Preliminary Findings and Data to the PAG/CBOSG, maps have been prepared that depict the anticipated NOx emissions reductions geographically, as shown in Appendix C.

A summary of stakeholder input that was incorporated throughout the development of the NOx Study and into this Final Report is provided in Table 48: Summary of Incorporated Stakeholder Feedback. All feedback received, whether incorporated into the study or not as described above, has been recorded in the quarterly reports, along with SoCalGas's responses. Additionally, some administrative and other minor corrections were made to the Final NOx Study Report for clarity.

Table 48
Summary of Incorporated Stakeholder Feedback

Thematic Comments from PAG/CBOSG Members	Incorporation of and Response to Feedback
Study Scope Early on in the process, stakeholders had questions regarding the scope of the NOx study such as if the NOx study will include end uses of hydrogen, potential NOx emissions from the pipeline infrastructure, and additional air pollutants including PM. Stakeholders were also curious about identification of sectors that combust hydrogen, expected NOx levels for the Los Angeles Basin, and whether hydrogen could be entirely green and emit zero emissions. Stakeholders recommended that emissions related to industrial, commercial, and residential combustion of hydrogen be analyzed. There was also a question whether an air quality impact analysis for NOx emissions would be included. There were also inquiries with respect to plans to investigate the difference between current emissions and permitted emissions to	Consistent with stakeholder input, the scope of the NOx Study evaluated NOx emissions associated with hydrogen combustion associated with new infrastructure, specifically third-party production, third-party storage, and transmission of hydrogen, as well as NOx emissions reductions associated with displaced fossil fuels by end users in the mobility, power generation, and hard-to-electrify industrial sectors. language was added in the Executive Summary of the Study to clarify that the Study does not evaluate hydrogen combustion for commercial or residential end users because the estimates are based on the Demand Study, which did not include projections for the commercial or residential end use sectors. This is also discussed in Sections 3.2 and 11.2.4. Stakeholders requested that an air quality impact analysis for NOx emissions be

Table 48 Summary of Incorporated Stakeholder Feedback	
Thematic Comments from PAG/CBOSG Members	**Incorporation of and Response to Feedback**
better understand the potential for increases in NOx emissions under existing air permit constraints.	performed. However, this activity is beyond the scope of this Phase 1 feasibility analysis as discussed in Section 11.3. The Study assumes that permitted NOx emission limits for the power generation and hard-to-electrify industrial end user sectors would stay the same or decrease as discussed in Section 3.5. The Study also assumed that technological advancements such as adjustments to the hydrogen combustion process and post-combustion emission reduction options would be in place to support this premise as discussion in Section 3.5. Further evaluation was beyond the scope of this feasibility Study.
NOx Reductions Geographically Stakeholders recommended that a geographic depiction of the cumulative impact of NOx emissions be prepared that includes data from environmental justice screening tools. Stakeholders provided comments regarding the potential benefits of displacing fossil fuel use with hydrogen in reducing pollution in industrial and heavily trafficked areas, especially as it relates to disadvantaged communities. They had a question on how the NOx Study will determine geographical impacts to disadvantaged communities. Stake-holders suggested	In response to stakeholder input, Appendix C was added to the Study. This appendix includes several maps that identify the projected NOx emissions reductions by zip code and Environmental Justice Communities by census tract. Both sets of maps include preliminary pipeline routing information identified in the Routing Analysis. An air quality cumulative impacts analysis is outside the scope of this feasibility study but would be considered as a part of a future phase of Angeles Link during the CEQA analysis as discussed in Section 11.3.

Table 48 Summary of Incorporated Stakeholder Feedback	
Thematic Comments from PAG/CBOSG Members	**Incorporation of and Response to Feedback**
that the existing emission levels in the communities local to the proposed Angeles Link pipeline route, to the proposed compressors, and to the proposed power generation units be examined. Given that many communities are already disproportionally burdened by pollution, an assessment of cumulative impacts for NOx was deemed to be important.	
Public Health Risks Stakeholders made a recommendation that the public health risks of projected NOx emissions be evaluated.	A public health study related to NOx emissions is not part of the scope of this Study. However, given the projections for NOx reductions, the health impacts are anticipated to be benefits. In response to stakeholder feedback, Section 10.0 of this Study discusses the health effects of NOx and VOC as pollutants, as well as precursors to ozone; and also discusses the health effects of PM and DPM.
Demand Study Assumptions Stakeholders commented that the NOx emissions assessment will be dependent upon results from the Demand Study and that NOx emissions result from end use (e.g., combustion) rather than from electrolytic production of hydrogen.	SoCalGas agrees with the stakeholder comments and clarification was provided throughout the Study. The NOx Study was based on the information provided by the Demand Study including associated inherent assumptions. Specifically, the NOx Study was based on the three scenarios from the Demand Study and the three scenarios of currently projected throughput for Angeles Link.

Table 48
Summary of Incorporated Stakeholder Feedback

Thematic Comments from PAG/CBOSG Members	Incorporation of and Response to Feedback
Air Quality Goals Stakeholders recommended that the NOx Study should include reference to the South Coast AQMD's 2022 Air Quality Management Plan which outlines air quality goals and zero emission technology adoption rates in the South Coast AQMD.	Consistent with stakeholder feedback, the NOx Study summarizes at a high level a number of local and state air quality plans and requirements, including the South Coast AQMD's 2022 Air Quality Management Plan.
Infrastructure Stakeholders requested that details regarding NOx emissions associated with various production, storage and transmission methods and technologies be discussed. Stakeholders also requested more details regarding construction of infrastructure.	Consistent with stakeholder feedback, the requested information related to production, storage, and transmission is included in Section 3.6.1. The Phase 1 studies do not estimate emissions associated with construction, rather this analysis will occur during the CEQA/NEPA process, as discussed in Section 3.2.
Production Stakeholders requested information regarding third party production options. Stakeholders commented on NOx emissions associated with transport of water and materials such as biomass to the production site. Stakeholders commented on the seeming equivalency made in the Study regarding electrolysis and biomass gasification.	The NOx study report assumes that all third-party hydrogen production pathways that will use renewable electricity with zero NOx emissions and will be consistent with CPUC's definition of clean renewable hydrogen. While the NOx Study does not evaluate the NOx associated with water conveyance, in response to stakeholder input, a new Chapter 5 was added to the Angeles Link Water Resources Evaluation addressing emissions associated with water conveyance. Additionally, language was

Table 48 Summary of Incorporated Stakeholder Feedback	
Thematic Comments from PAG/CBOSG Members	**Incorporation of and Response to Feedback**
	added in Section 11.2.1 of the NOx Study to clarify that the emissions from transportation of other materials such as biomass to the production site or biomass feed preparation are beyond the scope of this feasibility study. Sections 7.2.1 and 8.2.1 were also revised to clarify that the NOx Study does not equate electrolysis and biomass gasification. This Study evaluated NOx associated with Steam Methane Reforming using Renewable Natural Gas as a feedstock and clean renewable hydrogen as a fuel for the heating equipment.
Non-Combustion Pathways Stakeholders provided comments recommending consideration of non-combustion pathways for production and transportation of hydrogen, as well as for end uses. Stakeholders requested evaluation of NOx emission reductions associated with displacement of fossil fuel powered vehicles by BEVs.	Consistent with stakeholder comments, the Study considers non-combustion pathways for third-party production, third-party storage, and transmission of hydrogen, as well as for end users. For example, as discussed in Section 3.2, non-combustion pathways for third-party production (including electrolyzers and biomass gasification) and transmission (electric driven compressors) have been evaluated. Additionally, Section 3.5.2.1 discusses non-combustion options for end users such as hydrogen fuel cells and FCEV for the mobility sector. Detailed information regarding hydrogen fuel cells is provided in Section 5.1.1. Since FCEV do not combust hydrogen, FCEV don’t have combustion emissions

Table 48 Summary of Incorporated Stakeholder Feedback	
Thematic Comments from PAG/CBOSG Members	**Incorporation of and Response to Feedback**
	such as NOx or VOC or PM emissions. In response to stakeholder input, language was added to the Executive Summary and in Section 11.1 to clarify that since BEVs are not potential end users of Angeles Link, analysis related to BEVs is beyond the scope of this NOx Study.
End Users Stakeholders suggested that NOx reductions should be evaluated by end use sector. Specifically, to understand impacts to anticipated reductions associated with the mobility sector subject to new regulations as compared to sectors that do not yet have a mandate from the state of California such as the hard-to-electrify industrial sector. Stakeholders also requested information regarding end users and anticipated displacement of fossil fuels for the power generation sector. There was also a question regarding whether the assumed blending percentages were based on volume or energy and clarification regarding NOx impacts related to blending.	Consistent with stakeholder comments, Sections 7 and 8 present results by end use sector for Demand Scenarios and Angeles Link Throughput Scenarios, respectively. In response to stakeholder input, detailed information is provided regarding anticipated NOx reductions and how those estimates were developed for each of the end-user sectors including mobility, power generation and hard-to-electrify industrial. In response to stakeholder input, the Study clarifies that local air districts' and the State's obligations to meet state and federal ambient air quality standards are requiring combustion equipment to continue to meet current and future emission limits as defined by the local air districts, the California Air Resources Board, and the federal Environmental Protection Agency. In order to estimate NOx reductions at end users, assumptions regarding hydrogen adoption rates were made based on information regarding currently available

Table 48 **Summary of Incorporated Stakeholder Feedback**	
Thematic Comments from PAG/CBOSG Members	**Incorporation of and Response to Feedback**
	equipment and technologies and their anticipated evolution over time. This includes assumptions regarding blending percentages, which are on a volume basis.
Refineries Stakeholders requested clarification regarding estimated NOx reductions for refineries.	In response to stakeholder input, the Executive Summary and Section 11.1 Key Findings was revised to clarify that refineries are only considered in the Ambitious Demand Scenario. For refineries, hydrogen demand data from the following were excluded: legacy process feedstock, demand for renewable diesel, and demand for sustainable aviation fuel. These sources of hydrogen for refineries were excluded from stationary combustion calculations for NOx because they were deemed either non-combustion (i.e., legacy process feedstock, which is not combusted, will not contribute to NOx) or outside of the scope of this analysis.
Power Generation Stakeholders requested clarification on whether NOx reduction strategies were specifically for the power sector and the expected degree of NOx reductions in the power sector if such improvements are implemented. There was also a question regarding the assumption of maintaining	In response to stakeholder input, the limitations regarding development of NOx emission factors for the power generation sector have been documented. Details are provided in Section 3.5 and Appendix A of this Study.

Table 48 Summary of Incorporated Stakeholder Feedback	
Thematic Comments from PAG/CBOSG Members	**Incorporation of and Response to Feedback**
current efficiency levels when switching from natural gas to hydrogen.	
NOx Mitigation / Minimization Stakeholders suggested that adjustments to achieve NOx emissions with hydrogen combustion that are “no worse” than for fossil fuel combustion, including changes in after-treatment performance, should be considered. Stakeholders also requested that more information regarding NOx control technologies be provided in the Study. Stakeholders also requested that information regarding opportunities to minimize NOx emissions be included, as well as the technological feasibility of the control options being considered.	Consistent with stakeholder input, this information has been provided in Section 6.2 including Table 10 of this Study. This includes emerging technologies for after-treatment performance, as well as discussion regarding SCR and NSCR.
Calculation Methodology Stakeholders shared concerns regarding use of a uniform methodology to estimate NOx emissions that does not differentiate between end use sectors. Stakeholders also requested detailed background information on data sources and methodologies used to estimate NOx and other air emissions.	As described in the calculation methodology of the NOx Study, the projected NOx emissions have been prepared using assumptions specific to each end use sector. In response to stakeholder input, additional detail has been added to Appendix A and Appendix B.
Calculation Spreadsheets Stakeholders requested that spreadsheets used to prepare NOx emission calculations be shared with	In response to stakeholder comments, Appendix A and Appendix B of this Study are provided to enable stakeholders to review the extensive detail regarding the

Table 48
Summary of Incorporated Stakeholder Feedback

Thematic Comments from PAG/CBOSG Members	Incorporation of and Response to Feedback
stakeholders. Additionally, a request for information regarding the assumptions used to develop the emissions, as well as the spreadsheets showing the calculations was made.	development of NOx emission factors for both fossil fuel combustion and hydrogen combustion including assumptions and data used to prepare the calculations. Stakeholders also requested the calculations details, which are included in Appendix D.
Literature Review Several stakeholders provided reports and literature to review and incorporate into the NOx Study.	In response to stakeholder feedback, the Study includes a review of relevant literature provided by stakeholders.

Summary of Literature Provided by Stakeholders:

Several stakeholders provided reports and literature to review and incorporate into the NOx Study. Specific literature provided has been evaluated and relevant information has been incorporated, as appropriate, including, but not limited to:

- AC Transit, Zero Emission Bus Transition Plan, 2022, 0162-22 ZEB Transition Plan_052022_FNL.pdf (actransit.org)
- CARB, Innovative Clean Transit Regulation, https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit/about
- South Coast Air Quality Management District (South Coast AQMD), 2022, 2022 Air Quality Management Plan (AQMP), https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan

13.0 GLOSSARY

Adiabatic flame temperature - The adiabatic flame temperature is the temperature reached by a flame under ideal conditions during the study of combustion. It is a higher temperature that is reached during actual processes. There are two types of adiabatic flame temperature: constant volume and constant pressure. The constant volume adiabatic flame temperature is the temperature that results from a complete combustion process that occurs without any work, heat transfer or changes in kinetic or potential energy. Its temperature is higher than in the constant pressure process because no energy is used to change the volume of the system.

Air toxics – Air toxics are toxic, or hazardous, air pollutants that cause or are suspected of causing cancer, birth defects, or other serious harms.

Air to Fuel Ratio – the air to fuel ratio equals the actual air to fuel ratio divided by the stoichiometric air to fuel ratio for the fuel. A value greater than 1 refers to lean mixtures and a value less than 1 refers to rich mixtures.

Ambient air – Ambient air refers to atmospheric air in its natural state. Ambient air typically consists of 78% nitrogen and 21% oxygen. The remaining 1% is a combination of carbon, helium, methane, argon, and hydrogen.

Autoignition Temperature – The minimum temperature that a substance mixed with air will ignite and burn without an ignition source.

Best Available Control Technology (BACT) – A pollution control standard mandated by the Clean Air Act and administered by the Environmental Protection Agency (EPA) and through delegation to local California Air Pollution Control districts. The BACT standard determines which air pollution control technology must be used to control the emission levels of a specific pollutant to its specified limit. The determination of what constitutes the “best available technology” for a particular pollutant and piece of equipment is decided within a system of defined criteria that considers energy consumption, total facility emissions, regional environmental impact, and the economic costs that would result from the use of the various emissions control solutions available. The BACT standard is the current standard applied to new or modified affected equipment.

Blended fuels – Blended fuels are mixtures of traditional and alternative fuels in varying percentages. Blends can be thought of as transitional fuels**.** The lowest-percentage blends are being marketed and introduced to work with current technologies while paving the way for future integration, in this case, eventual usage of 100% hydrogen fuel.

Carbon-based fuel (also includes fossil fuel) – Hydrocarbon materials of biological origin. Carbon-based fossil fuel includes decomposing plants and other organisms, buried beneath layers of sediment and rock. These fuels have taken millennia to become the carbon-rich deposits we now call fossil fuels. These fuels include coal, oil, and natural gas.

Clean renewable hydrogen - Clean renewable hydrogen is defined as hydrogen that does not exceed 4 kilograms of CO_2e produced on a lifecycle basis per kilogram of hydrogen produced and does not use fossil fuel in the hydrogen production process where fossil fuel is defined as a mixture of hydrocarbons including coal, petroleum, or natural gas, occurring in and extracted from underground deposits per D.22-12-055 dated December 15, 2022.

Cogeneration – Cogeneration is the use of a heat engine or power station to generate electricity and useful heat at the same time. Cogeneration is a more efficient use of fuel or heat, because otherwise-wasted heat from electricity generation is put to some productive use. These plants recover otherwise wasted thermal energy for heating.

Compressors - A compressor is a mechanical device that increases the pressure of a gas by reducing its volume. An air compressor is a specific type of gas compressor. Compressors are similar to pumps: both increase the pressure on a fluid and both can transport the fluid through a pipe. The main distinction is that the focus of a compressor is to change the density or volume of the fluid, which is mostly only achievable on gases. Gases are compressible, while liquids are relatively incompressible, so compressors are rarely used for liquids. The main action of a pump is to pressurize and transport liquids.

Continuous Emission Monitoring System (CEMS) – A CEMS involves equipment necessary to analyze a gas or particulate matter concentration or emission rate using pollutant analyzer measurements and a conversion equation, graph, or computer program to show results of the applicable emission limitation or standard. CEMS are required under some of the EPA regulations for either calculating mass emissions (40 CFR 60 Part 70) or determination of exceedances of the standards (40 CFR 60 Part 60).

Performance Specifications are used for evaluating the acceptability of the CEMS at the time of or soon after installation of equipment and whenever specified in the regulations.

Density – the mass per unit volume of a substance.

Diffusivity – Diffusivity is a measure of the capability of a substance or energy to be diffused or to allow something to pass by diffusion. Diffusivity refers to the spreading of something or making it less concentrated.

Drayage trucks - Drayage trucking involves shipping goods a short distance using ground freight. You see drayage loads commonly in intermodal shipping, such as moving large containers from a ship to rail for delivery.

Electrolyzer –An electrolyzer uses electrolysis as a method for carbon-free hydrogen production (green hydrogen) from renewable and nuclear resources. Electrolysis is the process of using electricity to split water into hydrogen and oxygen. This reaction takes place in an electrolyzer that can range in size from small, appliance-sized equipment that is well-suited for small-scale distributed hydrogen production to large-scale, central production facilities that could be tied directly to renewable or other non-greenhouse-gas-emitting forms of electricity production.

End-users – An end-user uses the hydrogen delivered by Angeles Link.

Engine – a machine that converts thermal energy into useful work (e.g., electricity of shaft power) to produce force and motion.

Equivalence Ratio – equivalence ratio refers to the fuel to air ratio. Defined as the ratio of the fuel-to-oxidizer ratio to the stoichiometric fuel-to-oxidizer ratio.

Exhaust gas aftertreatment – a device that reduces exhaust emissions from combustion equipment such as turbines and engines. It cleans exhaust gases to ensure the engines meet emission regulations. The main function of an aftertreatment system is to reduce emissions post combustion.

External combustion –The process of combining heat, fuel, and oxygen without the use of a combustion chamber to produce thermal energy.

Feasibility study – A feasibility study is an assessment of the practicality of a proposed project plan or method. For example, asking “Is this feasible?” by analyzing technical and operational feasibility factors.

Feedstock – Feedstock is the material that is used in some hydrogen production equipment such as renewable natural gas and biomass.

Flammability range – The range of air-to-fuel ratios for which a substance will burn when exposed to an ignition source. The low end of this range is “rich” combustion where excess fuel inhibits combustion. The high end of this range is “lean” combustion where excess air inhibits combustion.

Flame speed – The rate of expansion of a flame front in a premixed combustion reaction. This is the speed that unburned gas reactant gases (e.g., fuel and air) must move relative to an unmoving flame to supply it with fuel.

Global Warming Potential (GWP) - Global warming potential (GWP) is a measure of how much infrared thermal radiation a greenhouse gas added to the atmosphere would absorb over a given time frame, as a multiple of the radiation that would be absorbed by the same mass of added carbon dioxide (CO_2). GWP is 1 for CO_2. For other gases it depends on how strongly the gas absorbs infrared thermal radiation, how quickly the gas leaves the atmosphere, and the time frame being considered.

Green hydrogen - Green hydrogen is produced through water electrolysis process by employing renewable electricity. The reason it is called green is that there is no CO_2 emission during the production process. Water electrolysis is a process which uses electricity to decompose water into hydrogen gas and oxygen.

Heavy-duty transportation – Heavy-duty transportation includes flatbed trailers, wide load hauling, large trucks, and freight trucks.

Hydrogen – Hydrogen is a colorless, odorless, tasteless, flammable gaseous substance that is the simplest member of the family of chemical elements.

Hydrogen fuel cell - A hydrogen fuel cell is an electrochemical cell that produces a current that can work using a spontaneous redox reaction**.** The combination of the two half-cell potentials for the electrochemical reaction creates a positive potential for cells. In general, fuel cells are different from most batteries in that they require a continuous source of fuel and oxygen (usually from air) to sustain the chemical reaction, whereas in a battery the chemical energy usually comes from substances that are already present in the battery. Fuel cells can produce electricity continuously for as long as fuel and oxygen are supplied. The byproduct of a hydrogen fuel cell is water vapor.

Ignition energy – The minimum energy required to initiate the self-sustained combustion of a substance.

Infrastructure – Infrastructure are the resources such as pipelines and compressors required for an activity such as transmission of hydrogen.

Internal combustion – The process of combining heat, fuel, and oxygen within a combustion chamber where the combustion gases themselves are the working fluid.

Lowest achievable emission rate (LAER) - Under the Clean Air Act, LAER is the rate of emissions that reflects the most stringent emission limitation in the implementation plan of any state for a source or sources unless the owner or operator demonstrates such limitations are not achievable; or the most stringent emissions limitation achieved in practice, whichever is more stringent.

Methane – Methane is a chemical compound with the chemical formula CH_4 (one carbon atom bonded to four hydrogen atoms). It is the main component of natural gas.

Methodology – Methodology is the general research strategy that outlines the way in which research is to be undertaken and, among other things, identifies the methods to be used in it. These methods, described in the methodology, define the means or modes of data collection or, sometimes, how a specific result is to be calculated.

NOx – NOx is shorthand for nitrogen oxides (comprised of NO and NO_2) which is an air pollutant subject to air quality regulations formed during combustion of fossil fuels and a precursor to ozone.

Non-selective catalytic reduction – Non-selective catalytic reduction (NSCR) is a method of aftertreatment that can be utilized for exhaust streams with low oxygen content. NSCR uses a catalyst reaction to simultaneously reduce NOx, CO, and VOC to water, CO2, and nitrogen. The catalyst is typically a noble metal.

Polymer Electrolyte Membrane (PEM) is one of the water electrolysis technologies to split water molecules into hydrogen and oxygen. Its name comes from the use of a gas-tight solid polymer-based membrane as electrolyte, the ion transport material between electrodes.

Polymer electrolyte membrane fuel cell – Polymer electrolyte membrane fuel cells (PEMFC) convert the chemical energy stored in hydrogen fuel directly and efficiently to electrical energy with water as the only byproduct.

Project Scenario - A project scenario is a description of what a project proposal will look like when it is completed. This allows companies to identify potential problems that may occur along the way so they can be addressed in project planning for a smooth and productive outcome. Scenario planning, sometimes called scenario thinking or scenario analysis, is used by organizations as part of their strategic planning process.

Reciprocating compressors - A reciprocating compressor uses a linear drive to move a piston or a diaphragm back and forth to compress a gas. This motion compresses the gas by reducing the volume it occupies. Reciprocating compressors are the most used compressors for applications that require a very high compression ratio (compression ratio is the ratio of the pressure at the outlet of the compressor over the pressure at the inlet of the compressor).

Refining – Refining is removing impurities or unwanted elements from a substance, typically as part of an industrial process.

Residence time - Residence time is the exposure to peak combustion temperature, which also impacts the formation of NO_x emissions. The longer the residence time, the greater the formation of NO_x. Therefore, it is important for manufacturers to design to minimize the residence time.

Selective catalytic reduction - Selective catalytic reduction (SCR) converts nitrogen oxides, also referred to as NO_x, with the aid of a catalyst into diatomic nitrogen (N_2), and water (H_2O). SCR catalysts are made from various porous ceramic materials used as a support, such as titanium oxide, and active catalytic components are usually either oxides of base metals (such as vanadium, molybdenum and tungsten), zeolites, or various precious metals. Ammonia or urea is used as a reagent to reduce the NOx. Another catalyst based on activated carbon was also developed which is applicable for the removal of NOx at low temperatures.

Selective non-catalytic reduction – Selective non-catalytic reduction (SNCR) is a post combustion emission control technology for reducing NOx. The process involves injecting ammonia or urea at a location where the flue gas is between 1,400°F and 2,000°F to react with NOx formed in the combustion process.

Stack testing - A stack test, also referred to in EPA regulations as a performance or source test, measures the amount of a specific regulated pollutant, pollutants, or surrogates being emitted; demonstrates the capture efficiency of a capture system; or determines the destruction or removal efficiency of a control device used to reduce emissions at facilities subject to the requirements of the Clean Air Act (CAA or Act).

Stationary source – A stationary source refers to a qualitative term used to describe any fixed emitter of air pollutants, such as power plants, oil refineries, and heavy industrial facilities.

Steam generating units – Industrial/commercial/institutional steam generating units are boilers that are capable of combusting over 10 million international British thermal units per hour (MMBtu/hr) of fuel. A boiler or steam generator is a device used to create steam by applying heat energy to water.

Stoichiometric ratios/calculations - Stoichiometric ratios/calculations are used to analyze the relationship between the weights of reactants and products before, during, and following chemical reactions. Stoichiometry is founded on the law of conservation of mass where the total mass of the reactants equals the total mass of the products, leading to the insight that the relations among quantities of reactants and products typically form a ratio of positive integers. This means that if the amounts of the separate reactants are known, then the amount of the product can be calculated. Conversely, if one reactant has a known quantity and the quantity of the products can be empirically determined, then the amount of the other reactants can also be calculated.

Throughput – Throughput is the amount of a product or substance that is provided.

Turbines – A turbine is a rotary mechanical device that extracts energy from a fluid flow and converts it into useful work. The work produced can be used for generating electrical power when combined with a generator. A turbine is a turbomachine with at least one moving part called a rotor assembly, which is a shaft or drum with blades attached. Moving fluid acts on the blades so that they move and impart rotational energy to the rotor. In a gas turbine, the turbine is driven by expansion of hot gases. In a steam turbine, expanding steam drives the turbine. The turbine can do mechanical work or be used to generate electricity.

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APPENDIX A NO_X CALCULATION METHODOLOGY

The purpose of this Appendix is to describe the calculation approach for determining NOx emissions associated with the adoption of hydrogen within the project region. For the displaced fossil fuel, NOx emissions were calculated by multiplying an emissions factor (i.e., quantity of pollutant emitted per unit of activity data) by activity data (e.g., fuel usage, vehicle miles traveled). This is the standard approach used to calculate combustion emissions in air permitting and was used to determine the emissions from the combustion of both hydrogen and fossil fuels. This study found that while stoichiometric and standard chemical formulaic calculations for the formation of NOx from the combustion of hydrogen may exceed that for fossil fuels, there are numerous variables that can be adjusted within the combustion technology to minimize the NOx formed from the combustion of hydrogen.

Calculation methods differ between stationary and mobile source calculations. Stationary source calculations follow the “emissions factor multiplied by the activity data” approach.

Equation 1

$$Emission\ Factor\ x\ Activity\ Data = Emissions$$

Emissions factors for the combustion of fossil fuels such as natural gas, gasoline, and diesel have been studied and developed over many years. Multiple sources of these stationary source emissions factors have been considered including those published by the EPA in AP-42 “Compilation of Air Emissions Factors from Stationary Sources”[203] and those published by South Coast AQMD and other air management districts in their rules as equipment specific emission limits. This study sought similarly established emissions factors for the combustion of hydrogen by stationary sources. In addition to emissions factors for hydrogen combustion, scientific studies, manufacturer’s test data, and manufacturer’s NOx emissions guarantees for the combustion of hydrogen fuels were evaluated.

In the mobility sector for the purpose of this study, it was assumed that hydrogen demand as projected by the Demand Study will be utilized in fuel cells. Fuel cells only emit water

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[203] EPA, AP-42 Compilation of Air Emissions Factors from Stationary Sources, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors-stationary-sources

vapor and heat, therefore, emissions associated with the use of hydrogen as projected by the Demand Study in the mobility sector are zero. Therefore, to calculate NOx emission reductions from mobility, the equation was the volume of fossil fuel displaced times the NOx emissions factor for that specific equipment type combusting that specific fossil fuel.

Equation 2

$$Displaced\ Fossil\ Fuel\ (gal)\ x\ Emissions\ Factor\ \left(\frac{ton}{gal}\right) = Emission\ Reduction\ (ton)$$

Developing emissions factors from mobile sources was different than stationary sources because mobile sources must account for multiple modes of operation and can require multiple emissions factors to represent these various modes of operation and speeds at which a vehicle is operated. This study sought emissions factors for fossil fuel combustion to establish emissions reductions from displaced fossil fuel combustion.

Activity Data

Various activity data was required for the emission calculations within this study. At a high level, those data needs included emissions factors representative of fossil fuel combustion, emissions factors representative of hydrogen combustion, hydrogen consumption data for each end-use sector and sub-sector within the geographic region from 2030 to 2045, and fossil fuel volumes displaced by hydrogen for each end-use and sub-sector within the geographic region from 2030 to 2045.

For the purposes of this study, end-user calculations were completed on a sector or sub-sector level, while emissions factors are generally provided on an equipment level. Therefore, data was needed to determine what equipment was in each sector or sub-sector and the proportion of fuel utilized by each equipment type within the sector or sub-sector.

For infrastructure emissions estimates, data on typical operations within the sectors being evaluated was required to establish representative hypothetical scenarios. The volume of hydrogen needing to be produced, stored, and transmitted was also a data need.

Data Sources

An internally consistent data set representative of the study geography and time frame was sought for development of emissions factors and data regarding the breakout of equipment types and categories, and the breakout of fuel consumption for these equipment categories within each end-use sector so that hydrogen demand and fossil fuel displacement data from the Demand Study could be appropriately applied to the emissions calculations for end-users. The goal when selecting data sources was to minimize the number of different sources referenced so as to minimize complexity and assumptions. Many different sources were initially reviewed, including state and local implementation plans and air quality management plans, which referenced the CARB Standard Emission Tool (CEPAM2019v1.03) as a consistent source for their data. The CARB Standard Emission Tool (CEPAM2019v1.03) was determined to be a representative source of emissions data that that could be used to estimate NOx emissions and understand equipment categories and the magnitude of fuel throughput within each equipment category.

The CARB Standard Emission Tool (CEPAM2019v1.03) provides the emissions for criteria air pollutants (including NOx) for stationary and mobile sources. Data from the CARB Standard Emission Tool (CEPAM2019v1.03) can be exported at the state-, air basin-, or county-level and includes aggregated emissions for various sources and fuel/material types. Stationary combustion emissions are provided for a variety of industry sectors including electric utilities, cogeneration, petroleum refining, food and agriculture processing, and manufacturing and industrial. Mobile emissions are provided for many on- and off-road vehicle categories. The CARB Standard Emission Tool (CEPAM2019v1.03) baseline year is 2017 and data is given at five-year increments starting at 2020 through 2050.

The CARB Standard Emission Tool (CEPAM2019v1.03) provides NOx and other air pollutant emissions estimates for mobile sources; however, it does not include the emissions factors utilized to develop those estimates, nor does it include the volumes of fuel consumed by those vehicles. The CARB Standard Emission Tool (CEPAM2019v1.03) provides background information on their methodologies used. Background methodologies for mobile sources were reviewed and it was determined that the mobile source data in the CARB Standard Emission Tool (CEPAM2019v1.03) was obtained from the CARB EMFAC model, the most recent version being EMFAC2021 (v1.0.2). The CARB EMFAC model provides activity data and emissions factors for on-road and off-road mobile sources. The EMFAC model provides population counts, vehicle miles traveled, fuel consumption, and emissions factors and data for most on-road and off-road mobile vehicle categories (which can be rolled up into the designated sub-sectors) within the scope of this study. The model contains sufficient data to estimate NOx mobile emissions. Data from the EMFAC model was also used to estimate mobile source hydrogen demand and fossil fuel volumes displaced by hydrogen in the Demand Study. As a result, EMFAC is a singular source of calculation data for mobile combustion that is consistent across the scopes of this study and parallel Demand Study.

The Demand Study was a source of activity data for all end-user sectors. The Demand Study provided projected hydrogen consumption demand data and associated volumes of displaced fossil fuel consumption. The results of the Demand Study were provided annually across three different scenarios of hydrogen fuel adoption (Conservative, Moderate, and Ambitious). Emissions reductions from hydrogen demand projected by the Demand Study were evaluated from 2030 to 2045.

Local air district rules provide NOx emissions limitations (source-specific standards or not-to-exceed prohibitions) for various fuels and equipment types. These emissions limits, in conjunction with BACT and LAER requirements, provide wide coverage on the upper limit of emissions for the variety of equipment and fuel types. This emissions limitation information can be used to estimate the overall emissions for a particular industry based on its equipment and fuel consumption.

Development of Emission Factors

In the absence of published NOx emissions factors for hydrogen combustion, this study utilized the following approach to develop hydrogen emissions factors based on studies that evaluated volumetric variation of NOx emissions between hydrogen fuel and methane fuel.

NOx emissions are measured from combustion stacks as a volumetric value in parts per million by dry volume (ppmvd). Due to differences in the exhaust properties of methane and hydrogen, for an identical mass emission rate of NOx, measured NOx ppmvd values from pure hydrogen combustion are 37% greater than natural gas. This is because hydrogen exhaust has a higher water content which results in a more concentrated NOx ppmvd value when a sample is dehydrated before measurement and then corrected to standard oxygen conditions before reporting.[204] Therefore, volume-based emissions estimates of NOx are not directly comparable between these fuel types. Some studies and manufacturer data report NOx emissions on a volume basis without converting to a mass basis. In these cases, NOx emissions may inaccurately appear to increase between hydrogen and methane/fossil fuels even if they are not increasing on a mass basis. Some permits and regulations provide a volumetric basis for NOx emission limitations in parts

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[204] Douglas, C., B. Emerson, T. Lieuwen, T. Martz, R. Steele, B. Noble, 2022, NOx Emissions from Hydrogen-Methane Fuel Blends, Georgia Tech Strategic Energy Institute short paper, https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf

per million by volume (ppmv) at fifteen percent oxygen (O_2) for internal combustion units and three percent O_2 for external combustion units.

Volumetric emissions values can be converted to a mass basis (lb/mmbtu, lb/hr, or ton/yr) using a fuel-dependent proportionality value. These proportionality values are typically referred to as a "fuel factor" or an "F-factor." F-factors do not vary much between fossil fuels but do vary much between fossil fuels and hydrogen. It is imperative to use accurate F-factors, and it has been noted in scientific literature that some studies do not properly utilize F-factors for these conversions. This can skew results resulting in an apparent increase in NOx emissions when combusting hydrogen fuels when an increase in mass-basis NOx emissions is not occurring.[205] This study utilized the method for calculating F-factors outlined in a textbook authored by Jahnke (1993),[206] which follows the same process as the EPA's Method 19. This method was used to calculate F-factors for pure hydrogen and blended hydrogen-methane fuels. Table 19-2 "F-Factors for Various Fuels" from EPA's Method 19 – Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxide Emission Rates provides F-factors for commonly used fuels, including natural gas. This table lists 8,710 dscf/mmbtu as the EPA published F-factor for natural gas. This value was used in the calculations for this study. The EPA has not published an approved F-factor for hydrogen fuel, so the F-factors calculated using the described method were utilized.

Equation A-5[207] below was utilized to calculate the F_d factor, oxygen based, dry factor. The percentage mass of each constituent within the fuel blend was multiplied by the appropriate factor as provided in the equation, summed, and divided by the GCV (HHV) value for the fuel blend in units of btu/lb. The calculated F_d is for the stoichiometric scenario. Values are then corrected to the appropriate oxygen level for the reporting basis (3% or 15% based on the equipment type).

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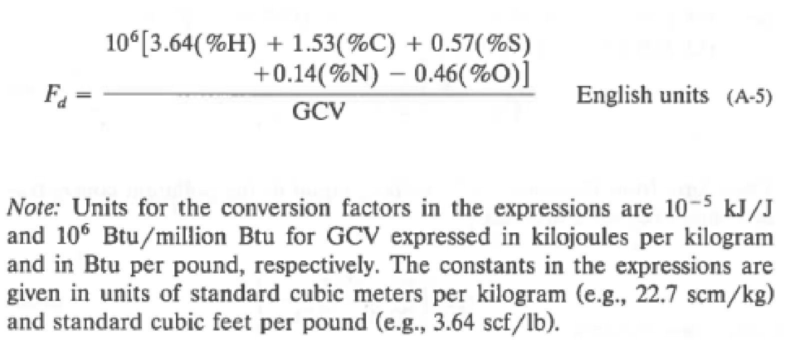
[205] Douglas, C., et al, 2022, NOx Emissions from Hydrogen-Methane Fuel Blends, Ibid.
[206] Jahnke, J.A., 1993, Ibid.
[207] Jahnke, J.A., 1993, Ibid.

Equation 3

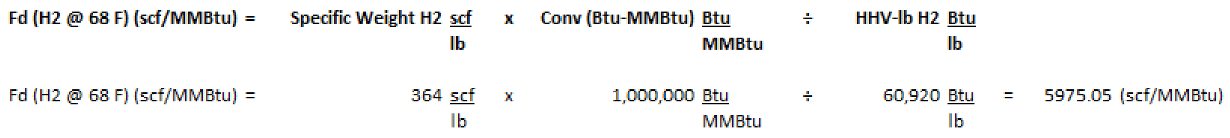


$$F_d = \frac{10^6[3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)]}{\text{GCV}} \quad \text{English units} \quad \text{(A-5)}$$

Note: Units for the conversion factors in the expressions are 10^{-5} kJ/J and 10^6 Btu/million Btu for GCV expressed in kilojoules per kilogram and in Btu per pound, respectively. The constants in the expressions are given in units of standard cubic meters per kilogram (e.g., 22.7 scm/kg) and standard cubic feet per pound (e.g., 3.64 scf/lb).

The equation below depicts the calculation of the F-factor for pure hydrogen @ 68F. Per Equation A-5 above, “Specific Weighted H2” = 364.0 scf/lb = 3.64 * 100 = 3.64 * (%H_2).

Equation 4



Fd (H2 @ 68 F) (scf/MMBtu) =	**Specific Weight H2**	**scf lb**	**x**	**Conv (Btu-MMBtu)**	**Btu MMBtu**	**÷**	**HHV-lb H2**	**Btu lb**		
Fd (H2 @ 68 F) (scf/MMBtu) =	364	scf lb	x	1,000,000	Btu MMBtu	÷	60,920	Btu lb	=	5975.05 (scf/MMBtu)

Volumetric (ppmvd) correction factors were utilized to convert emissions factors for pure natural gas to applicable factors for blended fuels and pure hydrogen. These correction factors account for differences in the exhaust properties of methane and hydrogen which, for an identical mass emission rate (lb/MMBtu), will have measured ppmvd (corrected to 15% O_2) values that are roughly 37% greater for hydrogen than natural gas. This is because, holding all combustion conditions the same, hydrogen exhaust has a higher water and oxygen content than natural gas. Stack gas samples (ppmvd) are dehydrated before measurement and then corrected to standard oxygen conditions before reporting. This process differentially skews measured ppmvd values between natural gas and hydrogen. This results in more concentrated ppmvd values from hydrogen exhaust for the same mass of NOx. These correction factors vary in magnitude across a spectrum of fuels from pure natural gas to pure hydrogen and were applied to pure natural gas emissions factors to develop representative blended or pure hydrogen emissions factors. These correction factors can also be applied in reverse to develop representative blended or pure natural gas emissions factors from pure hydrogen emissions factors. A plot of the correction factor over a range of hydrogen-natural gas fuel blends is depicted below, as well as this data in tabular form. Note that the data below depicts results from this publication at 1 bar of pressure, reactant temperature of 300K, and adiabatic flame temperature of 2000K. The publication also includes results, which are very similar (and not included below or used in this study), for 2 bar of pressure, reactant temperature of 700K, and adiabatic flame temperature of 2000K. [208] It was assumed that the correction factor from Douglas et al. was representative of all equipment types and fuel blends in this study where it was applied.

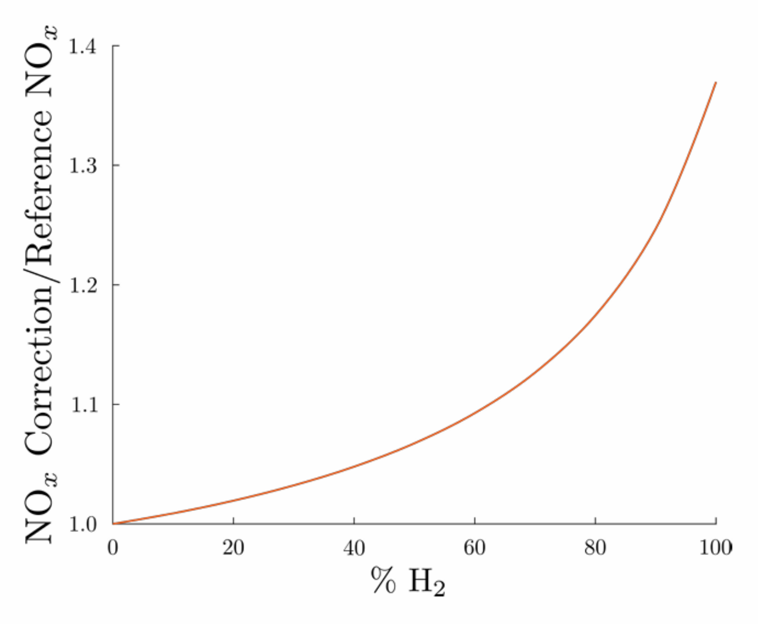


Figure A-1 **Correction Factor Plot Over a Range of Hydrogen-natural Gas Fuel Blends**[209]

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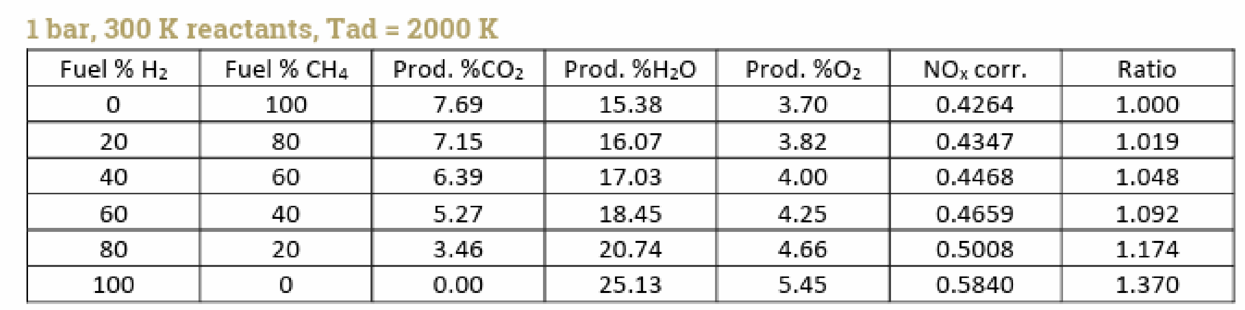
[208] Douglas, C., et al, 2022, NOx Emissions from Hydrogen-Methane Fuel Blends, Ibid.

[209] Douglas, C., et al, 2022, NOx Emissions from Hydrogen-Methane Fuel Blends, Ibid.

Table A-9 Tabular Correction Factor Values of Hydrogen-Natural Gas Fuel Blends[210]

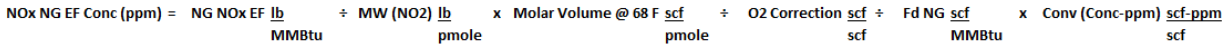


1 bar, 300 K reactants, Tad = 2000 K

Fuel % H_2	Fuel % CH_4	Prod. %CO_2	Prod. %H_2O	Prod. %O_2	NO_x corr.	Ratio
0	100	7.69	15.38	3.70	0.4264	1.000
20	80	7.15	16.07	3.82	0.4347	1.019
40	60	6.39	17.03	4.00	0.4468	1.048
60	40	5.27	18.45	4.25	0.4659	1.092
80	20	3.46	20.74	4.66	0.5008	1.174
100	0	0.00	25.13	5.45	0.5840	1.370

Representative NOx mass emissions factors for hydrogen and hydrogen-natural gas blends were calculated from NOx mass emission limits and BACT requirements from local regulations. Where emissions limits were given in lb/MMbtu rather than ppmvd, the following equation was used to convert to lb/MMbtu to ppmvd. It should be noted that values of scf in this equation correspond to exhaust volume.

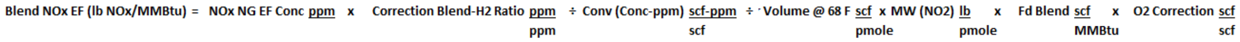
Equation 5



$$\text{NOx NG EF Conc (ppm)} = \text{NG NOx EF } \frac{\text{lb}}{\text{MMBtu}} \div \text{MW (NO2) } \frac{\text{lb}}{\text{pmole}} \times \text{Molar Volume @ 68 F } \frac{\text{scf}}{\text{pmole}} \div \text{O2 Correction } \frac{\text{scf}}{\text{scf}} \div \text{Fd NG } \frac{\text{scf}}{\text{MMBtu}} \times \text{Conv (Conc-ppm) } \frac{\text{scf-ppm}}{\text{scf}}$$

To convert to a representative emissions factor, ppmvd emissions factors were then multiplied by the appropriate correction factor for the given hydrogen percentage of the fuel, ranging from 0 for 0% hydrogen in the fuel, to 1.37 for 100% hydrogen in the fuel (see table above). Once multiplied by the correction factor, the ppmvd emissions factor was representative of ppmvd emissions from hydrogen combustion. Corrected ppmvd values could then be converted back to a mass basis as demonstrated in the equation below. It should be noted that values of scf in this equation correspond to exhaust volume.

Equation 6



$$\text{Blend NOx EF (lb NOx/MMBtu)} = \text{NOx NG EF Conc } \frac{\text{ppm}}{} \times \text{Correction Blend-H2 Ratio } \frac{\text{ppm}}{\text{ppm}} \div \text{Conv (Conc-ppm) } \frac{\text{scf-ppm}}{\text{scf}} \div \text{Volume @ 68 F } \frac{\text{scf}}{\text{pmole}} \times \text{MW (NO2) } \frac{\text{lb}}{\text{pmole}} \times \text{Fd Blend } \frac{\text{scf}}{\text{MMBtu}} \times \text{O2 Correction } \frac{\text{scf}}{\text{scf}}$$

The figure below demonstrates the overall impact of the correction factor approach (as depicted in the two equations above) on a mass basis emissions factor of 1 as the percentage of hydrogen in fuel increases. As the percentage of hydrogen in the fuel blend increases, the correction factor increases. However, this conversion is also driven by the

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[210] Douglas, C., et al, 2022, NOx Emissions from Hydrogen-Methane Fuel Blends, Ibid.

ratio of the F-factor in the 1st equation to the F-factor in the 2nd equation which decreases as the percentage of hydrogen in a fuel increases. As a result, when a natural gas lb/MMBtu emissions factor is converted to a representative pure hydrogen emissions factor (by converting the natural gas lb/MMBtu value to a volumetric value [ppmvd] using the F-factor for natural gas of 8,710 dscf/MMBtu, then multiplying by the correction factor to determine the representative hydrogen volumetric value [ppmvd], and then converting from the hydrogen volumetric value [ppmvd] to a hydrogen lb/MMBtu value by using the calculated F-factor for hydrogen of 5,975 dscf/MMBtu, as outlined above), the resultant pure hydrogen emissions factor is approximately 6% smaller. It should be noted that the "choppy" slope of this function is due to the "piecewise" nature of the tabular correct factor data used to develop this function.

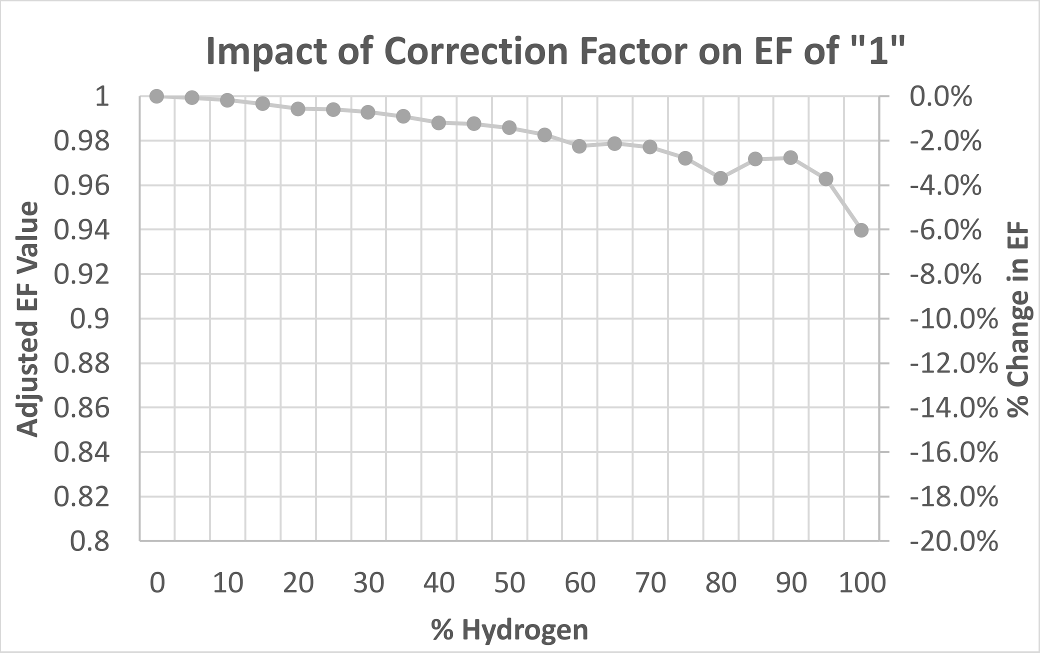

Figure A-2 Impact of Correction Factor on Emission Factor of "1"

The reduction in lb/MMBtu factors between natural gas and pure/blended hydrogen fuels in this calculation approach is primarily attributable to the differences in the natural gas and hydrogen F-factors. The F-factor for pure and blended hydrogen fuels are always less than the F-factor for natural gas. When the ratio of the pure/blended hydrogen F-factor to the natural gas F-factor is multiplied by the correction factor the result is less than 1. This ratio ranges from 0.94 – 1 depending on the percentage of hydrogen in the fuel, with 1 and 0.94 corresponding to 0% hydrogen and 100% hydrogen in the fuel, respectively. Therefore, the mass basis (lb/MMBtu) emissions factor for pure hydrogen combustion is calculated as 6% less than the mass basis emissions factor for pure natural gas.

These calculations were performed using the simplifying assumption that combustion conditions for hydrogen and natural gas are the same. There is particular uncertainty about exhaust oxygen concentration for hydrogen combustion systems. In this study it was assumed that exhaust oxygen concentration would be the same for hydrogen and natural gas. In practice, however it is possible that hydrogen combustion equipment may operate more optimally at different exhaust oxygen concentrations than natural gas equipment.

It is worth noting that roughly three times the volume of hydrogen is required to generate the same power output or heat (energy) output as natural gas. Hydrogen has a heating value of roughly 120-142 MJ/kg. Methane has a heating value of roughly 50-55 MJ/kg. For evaluation on a mass basis, this can be converted to kWh to indicate that 1 kg of hydrogen can produce about 33-39 kWh of energy, and 1 kg of methane can produce about 14-15.3 kWh of energy. This conversion does not account for thermal efficiencies. Accounting for turbine thermal efficiency and evaluating on a volumetric basis, the HHV of hydrogen is 325 Btu/scf and the HHV of natural gas is 1,020 Btu/scf, and the conversion for turbine thermal efficiency is 35 Btu/100-Btu per the EPA. This yields a range of 28 scf/kW-hr to 34 scf/KW-hr for hydrogen, and a range of 8 scf/kW-hr to 10 scf/kW-hr for methane (may be slightly lower for natural gas). As hydrogen is less dense and much lighter than methane or natural gas, pressure of the fuel supply or volumetric flow of hydrogen must be increased as compared to natural gas. The manufacturer GE notes that a fuel accessory system configured for necessary flow rates is required when operating a gas turbine on pure hydrogen fuel.

In this study, it was assumed that the combustion conditions would be the same for power generation equipment (and combustion equipment more broadly) combusting either hydrogen or natural gas. Given this assumption, the efficiency of hydrogen and natural gas equipment were assumed to be the same. As a result, the modeling approach of this study estimates that the NOx emissions per kWh from 100% hydrogen combustion will be 6% less than 100% natural gas. Using these assumptions, an example calculation of the possible range of lb NOx/kWh emissions for natural gas and hydrogen turbines can be determined. An average NOx emissions factor for turbines of 2.25 ppmvd (South Coast

Air Quality Management District, Rule 1135)211 will yield natural gas and hydrogen emissions factors of 0.00829 lb NOx/MMBtu and 0.00779 lb NOx/MMBtu respectively. Using a typical range of efficiencies for simple cycle turbines of 20% to 35%,212 natural gas and hydrogen turbines would have emissions between 0.081 and 0.141 lb NOx/MW-hr and 0.076 and 0.133 lb NOx/MW-hr respectively. This comparison was developed using the same efficiencies for hydrogen turbines and natural gas turbines, however in practice some studies have indicated that hydrogen turbines are more efficient than natural gas turbines.213 214 For example, the DOE indicates that in the future hydrogen and syngas combined cycle plants are likely to achieve efficiencies of 60% or more.215 Another consideration is that these equations apply concentration of NOx on a dry basis. With hydrogen exhaust typically wetter than natural gas exhaust, once the water is removed, the concentration of NOx on a dry basis is expected to be lower for hydrogen than for natural gas. The table below summarizes the calculation methodology based on EPA Method 19 and results for power generation comparing NOx per MW-hr for natural gas combustion and hydrogen combustion.

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[211] South Coast AQMD, 2022d, RULE 1135. Emissions of Oxides of Nitrogen from Electricity Generating Facilities, https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1135.pdf

[212] DOE, 2024, How Gas Turbine Power Plants Work, DOE webpage, https://www.energy.gov/fecm/how-gas-turbine-power-plants-work#:~:text=A%20simple%20cycle%20gas%20turbine,of%2060%20percent%20or%20more

[213] Douglas, C., S.L. Shaw, T.D. Martz, R.C. Steele, D.R. Noble, B.L. Emerson, T.C. Lieuwen, 2022, Pollutant Emissions Reporting and Performance Considerations for Hydrogen-Hydrocarbon Fuels in Gas Turbines, Journal of Engineering for Gas Turbines and Power 144(9): 091003, https://doi.org/10.1115/1.4054949

[214] Pyo, M. et al., 2021, A Comparative Feasibility Study, Ibid.

[215] DOE, 2024, Ibid.

Table A-2 Power Generation NOx per MW-hr Calculations

NG Factor (lb NOx/MMBtu)

Emission Factor		Conv	MW NO2	Molar Volume @ 68F	O2 Percent	F-Factor	Emission Factor
(ppmvd)		(scf-ppm/ppm)	(lb/mole)	(scf/mole)		(scf/MMBtu)	lb/MMBtu
2.25		1,000,000	46	385.22	0.15	8,710	0.00829

H2 Factor (lb NOx/MMBtu)

Emission Factor	Correction Factor	Conv	MW NO2	Molar Volume @ 68F	O2 Percent	F-Factor	Emission Factor
(ppmvd)		(scf-ppm/ppm)	(lb/mole)	(scf/mole)		(scf/MMBtu)	lb/MMBtu
2.25	1.37	1,000,000	46	385.22	0.15	5,975	0.007791

NG Factor (lb NOx/MW-hr)

Emission Factor	Conversion	Efficiency 1		Emission Factor
(lb/MMBtu)	(MMBtu/KW-hr)			lb/MW-hr
0.0082898	0.00341214	0.2		0.141

H2 Factor (lb NOx/MW-hr)

Emission Factor	Conversion	Efficiency 1		Emission Factor
(lb/MMBtu)	(MMBtu/KW-hr)			lb/MW-hr
0.00779084	0.00341214	0.2		0.133

NG Factor (lb NOx/MW-hr)				
Emission Factor	Conv	Efficiency 2		Emission Factor
(lb/MMBtu)	(MMBtu/KW-hr)			lb/MW-hr
0.0082898	0.00341214	0.35		0.081
H2 Factor (lb NOx/MW-hr)				
Emission Factor	Conversion	Efficiency 2		Emission Factor
(lb/MMBtu)	(MMBtu/KW-hr)			lb/MW-hr
0.00779084	0.00341214	0.35		0.076

Fossil fuel and hydrogen fuel consumption activity data from the Demand Study was used to determine emissions reductions from displaced fossil fuels associated with the adoption of hydrogen as a fuel source. Activity data from the Demand Study was provided for sub-sectors of the Hard to Electrify Industrial sector and Power Generation sector, for which general NOx emissions factors were not available. NOx emissions factors for these industry sectors were not available because NOx emissions factors are typically developed at an equipment-level. Equipment-specific emissions factors compiled from the air districts (regulatory emission limits and BACT requirements) and inventory data from the CARB Standard Emission Tool (CEPAM2019v1.03), both within the geographic-scope of this project, were used to develop calculations for the industry and Power Generation sectors with data from the Demand Studies.

A review of regulatory information was performed, and four equipment categories were identified for which distinct emissions factors and BACT limitations were available that could be applied to the combustion information provided in the CARB inventories. These equipment-specific emissions factors were used to estimate the energy throughput for each equipment category using the NOx emissions reported in the CARB inventories. From this information, weighted emissions factors were developed at an industry sector-level or equipment-level based on overall energy throughput to a particular category of equipment. Similarly, this throughput data developed from the CARB inventories was used to determine the fraction of energy consumption in a particular industry sector being used by a particular equipment category. While the emissions factors from air district regulations and BACT only apply to fossil fuels, the correction factor approach outlined above was used to convert them to an equivalent factor for pure or blended-hydrogen fuels.

For the purposes of this study, it is assumed that emission sources within the Mobility sector will utilize hydrogen in hydrogen fuel cells. Hydrogen fuel cells are categorized by CARB as “zero emission vehicles” and only emit water vapor and heat. Therefore, the anticipated NOx and other air pollutant emissions factors for hydrogen fuel cells were zero. For the mobility sector, emissions factors for the combustion of fossil fuels utilized to calculate reductions were developed based on emissions and fuel consumption data from the CARB EMFAC model.

APPENDIX B MODELING AND DIRECT MEASUREMENT STUDY RESULTS FROM LITERATURE

Modeling Studies

In the modeling studies that were reviewed, various models, variable inputs, and boundary conditions are used to account for the unique properties of hydrogen and minimization of air pollutant emissions. One such study evaluating a micro gas turbine, conducted by Meziane and Bentebbiche (2019)[216], utilized computational fluid dynamic numerical simulations for various hydrogen fuel blends with experimental results of NOx emissions used as the boundary conditions for their model. This study notes that thorough and sufficient pre-mixing of the air and fuel is important for minimizing NO_x formation. The researchers evaluated the impact of blended hydrogen fuels on combustion performance, while considering pollutant emissions. They found that both carbon monoxide (CO) and nitric oxide (NO) decreased as the percentage of hydrogen in the fuel increased when they modeled a constant injection velocity for the blended fuel. A 14% decrease in NO emissions was seen with only 10% hydrogen in the fuel gas.

Another modeling study by Breer et. al.,[217] evaluated how fuel composition affects the production pathway for NOx formation. This study used the PREMIX package in ANSYS Chemkin[218] and the HyChem (Hybrid Chemistry) kinetic mechanism.[219] ANSYS Chemkin is a chemical kinetics simulation tool. HyChem is a combustion chemistry model for real liquid fuels that utilizes the physics of large hydrocarbon combustion at high

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[216] Meziane, S. and A. Bentebbiche, 2019, Numerical study of blended fuel natural gas-hydrogen combustion in rich/quench/lean combustor of a micro gas turbine, International Journal of Hydrogen Energy 44(29): 15610-15621, https://doi.org/10.1016/j.ijhydene.2019.04.128

[217] Breer. B., H. Rajagopalan, C. Godbold, H. Johnson II, B. Emerson, V. Acharya, W. Sun, D. Noble, T. Lieuwen, 2023, Numerical investigation of NOx production from premixed hydrogen/methane fuel blends, Combustion and Flame, Combustion and Flame 255: 112920, https://doi.org/10.1016/j.combustflame.2023.112920

[218] Ansys, 2023, Chemkin-Pro Chemistry Simulation Software, https://www.ansys.com/products/fluids/ansys-chemkin-pro

[219] Jiang, H., W. Shen, S. Bai, D. Chen, C. Wang, X. Liang, K. Wang, 2023, Revised HyChem modeling combustion chemistry of air-breathing high-energy density jet fuel: JP-10, Combustion and Flame 248: February, 112578, https://doi.org/10.1016/j.combustflame.2022.112578

temperatures[220] which utilizes two sub models to express the fuel pyrolysis and pyrolysis products oxidation.[221] They also evaluated results with GRI 3.0, Glarborg, and University of California San Diego (UCSD) mechanisms for comparison. The study notes that some mechanisms such as GRI 3.0[222] have not been validated for pure hydrogen combustion. GRI 3.0 is a mechanism for modeling natural gas combustion, including 325 reactions and 53 species. The UCSD San Diego Mechanism is used for modeling combustion applications as a chemical-kinetic mechanism with 57 species in 268 reactions.[223]

The Breer study evaluated how hydrogen/methane fuel compositions impact the flame NO and the post-flame NO. Post-flame NO was defined as “the difference between actual NO levels and flame NO.” Flame NO is generated primarily via the Fenimore mechanism, also referred to as prompt NO_x, demonstrated in the equations below.

$$CH + N_2 \leftrightarrow HCN + N$$

$$C + N_2 \leftrightarrow CN + N$$

The formation via this mechanism depends on the HCN conversion to NO. The amount of carbon available to form HCN decreases as the percentage of hydrogen in the fuel increases, which ultimately decreases the production of flame NO via this mechanism. The equations below demonstrate the pathway for conversion of HCN to NO.

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[220] Wang, Hai, 2023a, HyChem – Combustion Reaction Models of Liquid Fuels - Home, Stanford Department of Mechanical Engineering web page, https://web.stanford.edu/group/haiwanglab/HyChem/

[221] Wang, Hai, 2023b, HyChem – Combustion Reaction Models of Liquid Fuels - Approach, Stanford Department of Mechanical Engineering web page, https://web.stanford.edu/group/haiwanglab/HyChem/

[222] Smith, G.P., D.M. Golden, M. Frenklach, N.W. Moriarty, B. Eiteneer, M. Goldenberg, C.T. Bowman, R.K. Hanson, S. Song, W.C. Gardiner, Jr., V.V. Lissianski, and Zhiwei Quin, 2023, GRI-Mech 3.0 webpage, http://www.me.berkeley.edu/gri_mech/

[223] UCSD, 2023, Chemical-Kinetic Mechanisms for Combustion Applications, University of California at San Diego Mechanical and Aerospace Engineering (Combustion Research), San Diego Mechanism web page, https://web.eng.ucsd.edu/mae/groups/combustion/mechanism.html

$$HCN + O \leftrightarrow NCO + H$$

$$NCO + H \leftrightarrow NH + CO$$

$$NH + H \leftrightarrow N + H_2$$

$$N + OH \leftrightarrow NO + H$$

The study found that flame NO formation showed a large decrease as the percentage of hydrogen in the fuel increased. Post-flame (residence time of 10 ms) NO emission levels from pure hydrogen combustion decreased as compared to pure methane combustion for a fixed power condition and adiabatic flame temperature. However, for longer residence times, there is a weaker sensitivity to hydrogen addition than seen for flame NO, finding that post-flame NO production rates increase slightly with the increase of the percentage of hydrogen in the fuel at most conditions. The study found that quantity of post-flame NO emissions from hydrogen-methane blend combustion exceeds that of pure methane combustion at residence times roughly greater than 25 ms. Residence times greater than 25 ms exceed what is practical for gas turbine engine applications.

Table B-1 Findings from Modeling Studies

Key Findings	Year of Publication	Authors
Sufficient pre-mixing is needed for minimizing NOx formation in micro turbines. NO decreased as the percentage of hydrogen in the fuel increased at constant injection velocity. 14% decrease in NO at 10% hydrogen in fuel gas.	2019	Meziane and Bentebbiche

Table B-1 Findings from Modeling Studies		
Key Findings	**Year of Publication**	**Authors**
Flame NO emission levels decreased as the percentage of hydrogen in the fuel increased. An increase in hydrogen in the fuel demonstrated a decrease in post-flame (residence time of 10 ms) NO emission levels as compared to pure methane. However, post-flame NO production rates increased slightly as the percentage of hydrogen increased in the fuel at most conditions. Hydrogen-methane fuel blends produce more NO than pure methane at residence times greater than 25 ms, which is impractical for gas turbine applications.	2023	Breer et al.

Direct Measurement Studies

Direct measurement studies addressing NO_x formation from the combustion of hydrogen have typically been performed on equipment that was originally designed to combust natural gas or other fossil fuels rather than being designed for the unique combustive properties of hydrogen. Such studies have evaluated the change in emissions as the percentage of hydrogen in the fuel was increased and no modifications were made to the equipment. One such study from the Combustion Laboratory at the University of California Irvine measured emissions from nine prototype and commercial burners that were not specifically designed to combust hydrogen, while operating on biogas (CO_2/methane), hydrogen-enriched natural gas, and natural gas with higher hydrocarbons.[224] The nine burners included; low-swirl burner (LSB), surface-stabilized combustion burner (SSCB), micro-turbine combustor Capstone C65 (MTC), oxygas burner, high speed jet burner (HSJ), turbine combustor GT333 FlexEnergy (GTC), radiant tube (RT), infrared burner (IRB), and slot burner (SB). The study ultimately found that NOx production by various combustion technologies with typical combustion and fuel composition variables was inconsistent. Six of the burners tested showed an increase in

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[224] Colorado, Andres; McDonell, Vincent. (University of California Irvine, Combustion Laboratory UCICL), 2016, Ibid.

NO_x formation as the percentage of hydrogen in the fuel increased. These burners included LSB, MTC, Oxygas, HSJ, RT, and SB. The exhaust gas recirculation was not as effective in reducing temperature in these five units due to their common aerodynamic stabilization strategy where the mixing speed did not keep up with the chemistry due to the high reactivity of hydrogen. For the units where NO_x emissions were decreased with the increase of the percentage of hydrogen in the fuel, enhanced radiative heat losses from the reaction due to increased surface area and high emissivity materials were noted as the cause for the reductions. The units where NO_x emissions were decreased as the hydrogen in the fuel increased included SSCB and IRB. The variations in the combustion and burner technology appeared to be an important driver in the variation of NO_x formation among the hydrogen-enriched natural gas fuels.

A study released in September 2023 by Giacomazzi et. al., found that with methane/hydrogen fuel blends, NO_x ppm emissions (mass normalized to account for the different exhaust compositions) decreased as the mole fraction of hydrogen in the fuel increased. The strategy within this study involved decreasing the fuel to air ratio as the mole fraction of hydrogen increased. This effectively reduced combustion temperatures, thereby reducing NO_x formed via the thermal pathway. The combustion of hydrogen and air can be stable at lower fuel to air ratios than natural gas. The study notes that, “There is no fundamental chemical kinetic reason why hydrogen flames should produce more NO_x than natural gas flames.” [225]

Real world examples of co-firing existing gas turbines at operating facilities with hydrogen were evaluated. The largest of these tests occurred at the Georgia Power McDonough-Atkinson Plant on their M401G gas turbine (facility unit ID GT 6B) with dry-low NOx (DLN) technology. The Electric Power Research Institute (EPRI) and Mitsubishi worked with Georgia Power on this study. At a hydrogen blend of 20% by volume in the fuel, the NOx level by volume stayed relatively constant with the NOx level by volume from combustion of pure natural gas in this unit at around 15 ppm (15% O_2). They found that power output turndown improved by about 10%, combustion efficiency improved, and CO emissions decreased.[226] Another test of co-firing hydrogen with natural gas at an operating facility was completed at the New York Power Authority’s Brentwood site on their GE LM6000 Gas Turbine in association with GE and EPRI. This system does not rely on lean premixed operation for low NOx emissions. Instead, it uses water injection to reduce combustion

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[225] Giacomazzi, E., et al., 2023, Hydrogen Combustion, Ibid.

[226] Mitsubishi Power, 2023, Combustion of Hydrogen Blends in Mitsubishi Gas Turbines, Presentation, California Energy Commission Potential Growth of Hydrogen Workshop, September 8

temperatures produced by non-premixed "diffusion" flames, combined with exhaust gas scrubbing. Hydrogen at 5-44% by volume were used in this unit. They observed during the study that NOx mass emissions increased by 24% as the percentage of hydrogen in the fuel increased. The report noted that compliance with permitted limits could still be maintained by increasing water injection, a form of thermal dilution, or adjusting the aftertreatment of the unit.[227] A third example of co-firing hydrogen was performed at the A.J. Mihm Power Plant in Michigan in October 2022. The plant tested one of their Wartsila 50SG 18.9 MW reciprocating engines by co-firing up to 25% hydrogen by volume. They found that they were able to maintain compliance with their existing NOx emission limits. The first three examples include hydrogen co-firing on existing natural gas combustion units. A fourth example from Daesan Korea in July 2023, tested a retrofitted GE 7E gas turbine at a 60% hydrogen blended fuel using PSM's FlameSheet Combustor Platform with a blending system providing fuel delivery. The test was completed by PSM, Thomassen Energy, and Hanwha Power Systems.[228] They found that the unit emitted single-digit emissions of NOx in ppmv at dry, baseload conditions.[229]

A direct measurement study completed by the Chevron Energy Technology Company in 2011 tested potential issues with switching refinery process heaters to hydrogen from natural gas. They tested an ultra-low NOx round flame burner and a low NOx flat flame burner on hydrogen fuel blends up to 100% at three firing rates: maximum design rate, normal rate, and minimum rate. The burners were capable of operating up to 95% hydrogen blend with no equipment modifications. They found that NOx emissions increased from 11 ppm (corrected to 3% O_2) for natural gas combustion to 13.5 ppm for hydrogen combustion for the ultra-low NOx round flame burner at 95% hydrogen, a 22.73% increase. NOx emissions increased from 42 ppm for natural gas combustion to 64 ppm for hydrogen combustion for the low NOx flat frame burner, a 52.4% increase. It is noteworthy that for the same mass emissions of NOx, NOx ppmv values from hydrogen combustion are roughly 36%-40% higher than NOx ppmv values from natural gas combustion[230]. Consistent with this observation, the Chevron study noted in its conclusion that NOx mass emissions (lb/MMBtu) for the ultra-low NOx burner decreased slightly

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[227] Steele, R.C., T.D. Martz, A. Ettlinger, T. Zandes, M.J. Alexander, B.K. Hockman, J.S. Goldmeer, 2022, Hydrogen Co-Firing Demonstration at New York Power Authority Brentwood Site: GE LM6000 Gas Turbine, September, executive summary available at https://www.epri.com/research/products/000000003002025166

[228] Power Engineering, 2023, Frame 7E gas turbine operates with hydrogen blend at 60%, industry article, July 11, https://www.power-eng.com/hydrogen/hydrogen/

[229] McDonell, V., 2023a, Ibid.

[230] Douglas, C., et al., 2022, Pollutant Emissions Reporting, Ibid.

when combusting hydrogen as compared to natural gas and low hydrogen fuel gases. There is no indication from the study that aftertreatment or controls were utilized on the external combustion units tested.[231] [232] A summary of findings is shown in the table below.

Table B-2 Findings from Direct Measurement Studies

Equipment Type	Key Findings	Year of Publication	Authors
Low-Swirl Burner (LSB) Surface-Stabilized Combustion Burner (SSCB) Micro-Turbine Combustor (MTC) – Capstone C65 Oxygen Burner High Speed Jet Burner (HSJ) Turbine Combustor GT333 – FlexEnergy Radiant Tube (RT) Infrared Burner (IRB) Slot Butner (SB)	NOx production between various burner technologies was inconsistent.	2017	California Energy Commission and UCI Combustion Laboratory
Bunsen Burner	NOx ppm emissions (mass normalized) decreased as the mole fraction of hydrogen in the fuel increased.	2023	Giacomazzi et al.

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[231] Douglas, C., et al., 2022, Pollutant Emissions Reporting, Ibid.
[232] Lowe, C., et al., 2011, Technology assessment, Ibid.

Table B-2 Findings from Direct Measurement Studies			
Equipment Type	**Key Findings**	**Year of Publication**	**Authors**
Turbine	NOx level by volume stayed relatively constant at hydrogen blends of 20% compared to 100% natural gas, roughly 15 ppm (15% O_2).	2023	Georgia Power McDonough-Atkinson Plant, Mitsubishi, EPRI
Turbine	NOx mass emissions increased 24% as the percentage of hydrogen in the fuel increased, co-firing 5-44% by volume.	2023	New York Power Authority's Brentwood site, GE, EPRI
Reciprocating Engine	They were able to maintain compliance with existing NOx limits when co-firing up to 25% hydrogen by volume.	2022	A.J. Mihm Power Plant in Michigan
Gas Turbine	They achieved single digit NOx ppmv emissions at dry, baseload conditions when co-firing 60% hydrogen on a retrofitted turbine.	2023	Daesan Korea retrofitted GE 7E gas turbine
Ultra-Low NOx Round Flame Burner Low NOx Staged Fuel Flat Frame Burner	Ultra-low NOx round flame burner NOx mass emissions (lb/MMBtu) decreased slightly when combusting hydrogen as compared to natural gas.	2011	Chevron Energy Technology Company, John Zink Co., LLC

NOx Appendix C: Maps of Projected NOx Reductions and Environmental Social Justice Communities

ANGELES LINK PHASE 1

Maps of Projected NOx Reductions and Environmental Justice Communities

July 2024

SoCalGas commissioned these maps from Stantec Consulting Services Inc. The analysis was conducted, and this material was prepared, collaboratively.

Maps of Projected NOx Reductions and Environmental Justice Communities

Southern California Gas Company (SoCalGas) is proposing Angeles Link to develop a clean renewable hydrogen[1] pipeline system to facilitate transportation of clean renewable hydrogen from multiple potential regional third-party production sources to various delivery points and end users in Central and Southern California, including in the Los Angeles Basin. The CPUC Phase 1 Decision[2] requires SoCalGas to, among other things, evaluate nitrogen oxide emissions resulting from Angeles Link. This evaluation is included in SoCalGas's Nitrogen Oxides (NOx) and Other Air Emissions Assessment – Draft Report (NOx Report).

The goal of the spatial evaluation was to graphically present where projected NOx emission reductions would occur based on the Demand Scenarios and Throughput Scenarios[3] as presented in the NOx Report. This spatial evaluation of NOx emissions reductions as compared to a geographic depiction of environmental justice communities was prepared in response to stakeholders' requests. The removal of criteria pollutant emissions from on-road transportation (by transitioning to zero emission vehicles) can have significant benefits for disadvantaged communities in California.

The Demand Scenario mapping was prepared for the entire geographic area of SoCalGas's service territory. The Angeles Link mapping was conducted similarly to the Demand Scenario spatial evaluation, but with the geographic scope focused on the counties through which Angeles Link would potentially pass. Based on preliminary routing, Angeles Link will pass through four counties: Fresno, Kings, Kern, and Los Angeles. Sixteen NOx maps were developed, four each for the Conservative and Ambitious Demand Scenarios and four each for the Low and High Throughput Scenarios. The four maps for each scenario were developed using data for 2030, 2035, 2040, and 2045, respectively.

The objective of the spatial evaluation was to present how NOx emissions could change across the project geography due to end-user adoption of hydrogen. The specific results plotted in the spatial evaluation were the total change in annual NOx emissions from all end-users (mobility, power generation, and hard to electrify industrial) for a particular year for 2030, 2035, 2040, and 2045. These results were developed based on methodologies discussed in the NOx study.

The NOx emission reductions were not originally developed at the zip code-level since they were based on subsector-level summary data from the Demand Study. As a result, additional analysis was required to develop a spatial dataset. The spatial dataset of annual change in NOx emissions by zip code was developed using a disaggregation approach. This approach was based on hydrogen demand tonnages provided in the Demand Study for each subsector, scenario, year between 2030-2045, and applicable zip code. Disaggregation was conducted by determining the fraction of hydrogen demand within each zip code for a given subsector, scenario, and year between 2030-2045. Projected NOx emission reductions by zip code were determined by multiplying NOx emission reductions by subsector, scenario, and year by the particular fraction

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[1] In the California Public Utilities Commission (CPUC) Angeles Link Phase 1 Decision (D).22-12-055 (Phase 1 Decision), clean renewable hydrogen refers to hydrogen that does not exceed 4 kilograms of carbon dioxide equivalent (CO2e) produced on a lifecycle basis per kilogram of hydrogen produced and does not use fossil fuels in the hydrogen production process, where fossil fuels are defined as a mixture of hydrocarbons including coal, petroleum, or natural gas, occurring in and extracted from underground deposits.

[2] CPUC Decision 22-12-055.

[3] As detailed in the Demand Study Report, the Demand Scenarios refer to the conservative, moderate, and ambitious scenarios for the estimated total market demand for hydrogen in Central and Southern California; and the Throughput Scenarios refer to the low, medium, and high scenarios of hydrogen that could be served by Angeles Link at various potential market penetration rates.

of hydrogen demand by zip code for a given subsector, scenario, and year. Since subsector was the lowest level of granularity for the results in the NOx report, it was determined that disaggregation would yield the same results as recalculating the results of this study based on hydrogen quantity per zip code and subsector (assuming overall hydrogen demand is consistent between the summary and zip code data).

Maps depicting the potential pipeline routes[4] developed by SoCalGas and the anticipated change to NOx emissions based on zip code are included in Appendix A. Disadvantaged communities (DACs) and environmental justice (EJ) communities[5] with potential pipeline routes are included in SoCalGas' Environmental Social Justice Plan and also included herein in Appendix B. Two geospatial mapping/screening tools were selected for evaluation of DACs and EJ communities. These included CalEnviroScreen 4.0 and the Climate and Economic Justice Screening Tool (CEJST). CalEnviroScreen uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. This tool was developed by the California Office of Environmental Health Hazard Assessment.[6] CJEST has datasets that are indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. This tool was developed by the Council on Environmental Quality in response to Executive Order 14008.[7]

Maps were prepared for Environmental Justice Communities. DACs were included in the spatial evaluation using data from CalEPA. The contemporary assessment of DACs was based, in large part, on results from the "California Communities Environmental Health Screening Tool: CalEnviroScreen 4.0" (CalEnviroScreen 4.0) from which census tracts were assessed based on indicators of pollution burden and population characteristics. Based on CalEPA's assessment, DACs were identified in this dataset based on four categories:

- Census tracts receiving the highest 25% of overall scores in CalEnviroScreen 4.0.
- Census tracts lacking CalEnviroScreen scores (due to data gaps), that received the highest 5% of CalEnviroScreen 4.0 pollution burden scores.
- Census tracts identified in the 2017 DAC designation as disadvantaged.
- Lands under the control of federally recognized Tribes.

Both CalEnviroScreen and CEJST datasets identify communities that are disproportionately burdened, and vulnerable to, multiple sources of pollution by census tract. Since anticipated NOx changes were disaggregated by the zip-code level and not by census tract, an analysis estimating the NOx emissions changes that could be expected in DAC and EJ communities as identified by census track was not conducted. However, when comparing the two map datasets, it can be visually observed that large emissions reductions occur in DAC and EJ communities.

Summary data from the Demand Study was used to prepare the NOx emission calculations provided in the NOx Report. To prepare this geospatial evaluation, the NOx emission reduction

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[4] SoCalGas's potential pipeline routes are discussed in the Preliminary Routing and Configuration Analysis report.

[5] For the purposes of this discussion, a community is considered as a disadvantaged community if it meets the CalEPA definition for a Disadvantaged Community (DAC) or the community has been identified as disadvantaged on the Climate and Economic Justice Screening Tool developed by the Biden Administration's Council on Environmental Quality. See: Final Designation of Disadvantaged Communities Pursuant to SB535, 2022 (ca.gov) for CalEPA definition of a DAC. See: https://screeningtool.geoplatform.gov/en/frequently-asked-questions#5.77/25.893/-86.555 for CEJST DAC designation.

[6] See: https://oehha.ca.gov/calenviroscreen

[7] See: https://screeningtool.geoplatform.gov/en/about

results for end-users were allocated to zip codes by calculating the ratio of hydrogen demand projected by the Demand Study for each zip code to total hydrogen demand and then applying that ratio to total NOx emission reductions for end-users to determine NOx emission reductions by zip code. The uncertainty of this method is that adoption of hydrogen by end-user sectors and sub-sectors is assumed to be the same across the geographical region even though the level of hydrogen adoption may also vary by zip code.

Appendix A: NOx Reduction Maps

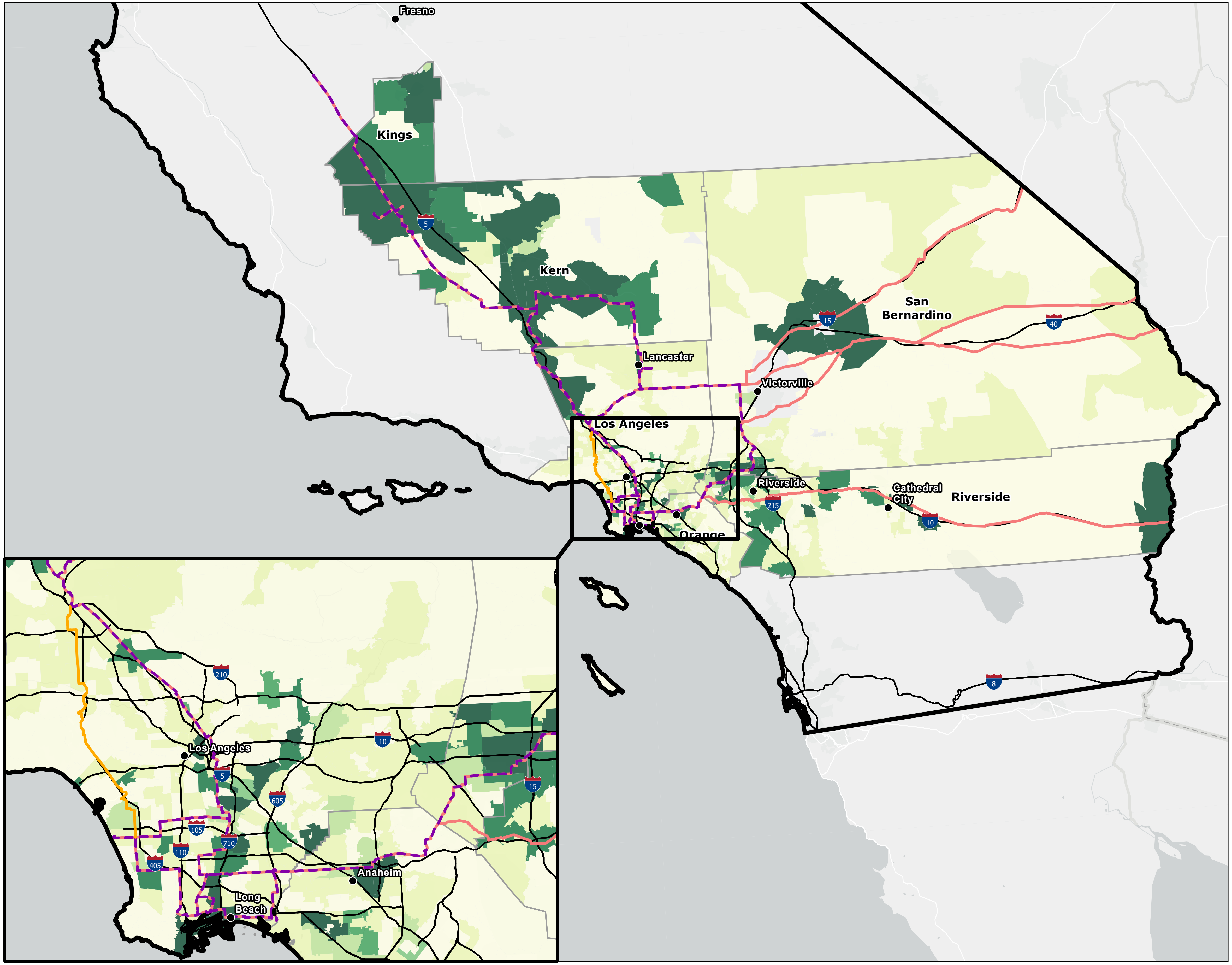


Figure No.

A-1

Title

NOx Emissions Reductions 2030, Market Demand: Total, Conservative

Client/Project 203723235

Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location Prepared by BS on 2024-07-19

California

N

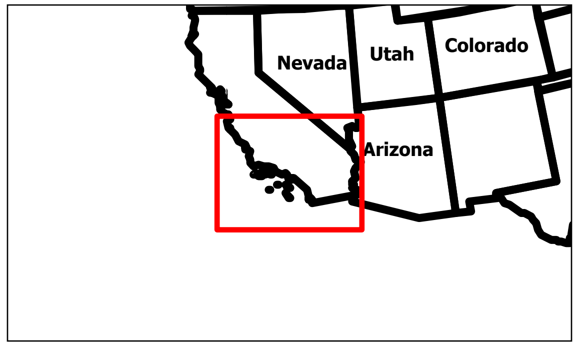
0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend

- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2030, Conservative Scenario

- 0.00 - 0.05 tons/year NOx
- 0.05 - 0.12 tons/year NOx
- 0.12 - 0.23 tons/year NOx
- 0.23 - 0.37 tons/year NOx
- 0.37 - 0.55 tons/year NOx
- 0.55 - 5.7 tons/year NOx
- >5.7 tons/year NOx



Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

Stantec

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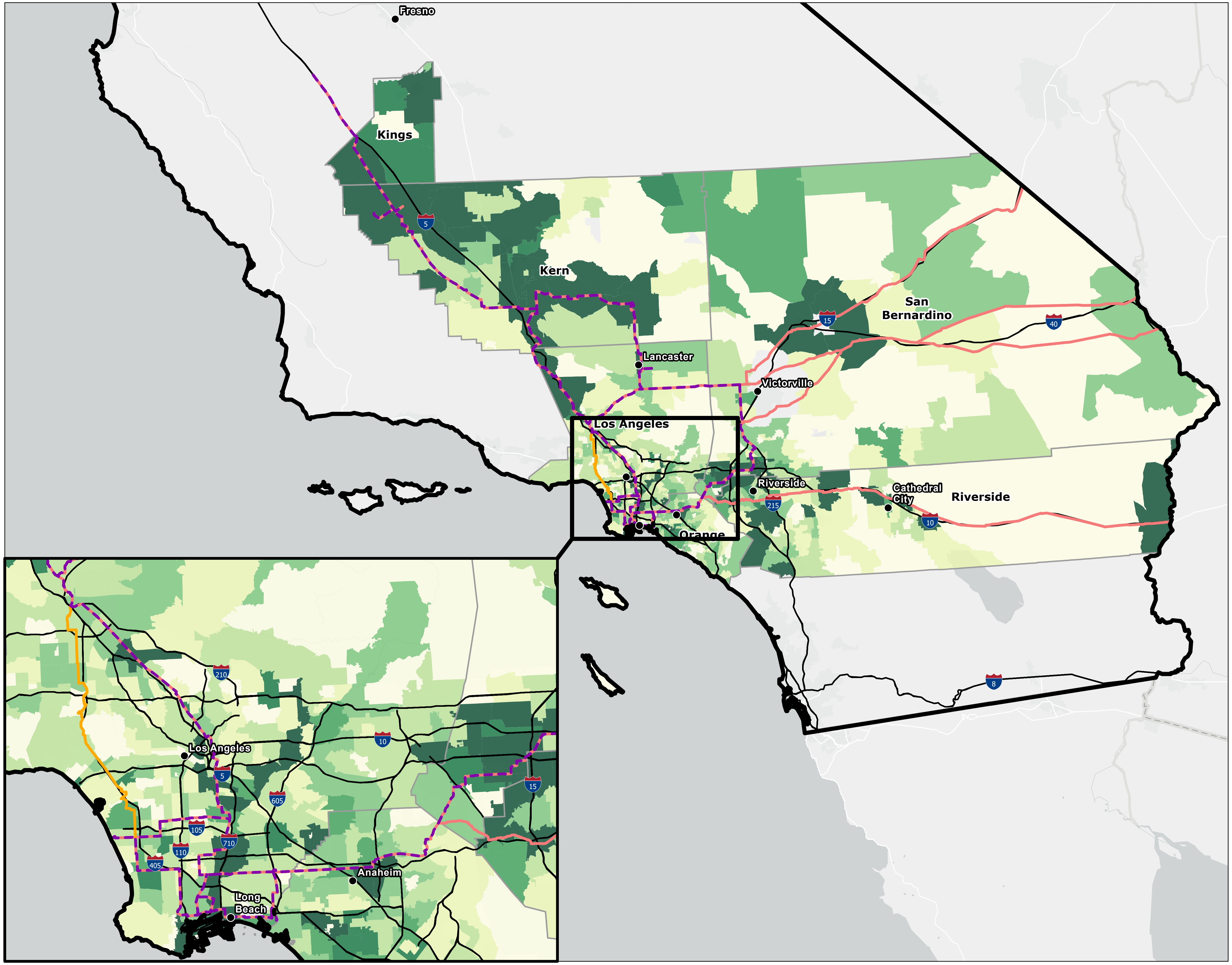


Figure No.

A-2

Title

NOx Emissions Reductions 2035, Market Demand: Total, Conservative

Client/Project 203723235

Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

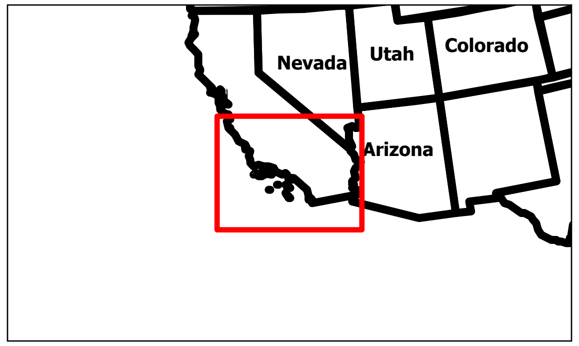
Prepared by BS on 2024-07-19

N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2035, Conservative Scenario
- 🟩 0.00 - 0.05 tons/year NOx
- 🟩 0.05 - 0.12 tons/year NOx
- 🟩 0.12 - 0.23 tons/year NOx
- 🟩 0.23 - 0.37 tons/year NOx
- 🟩 0.37 - 0.55 tons/year NOx
- 🟩 0.55 - 5.7 tons/year NOx
- 🟩 >5.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

Stantec

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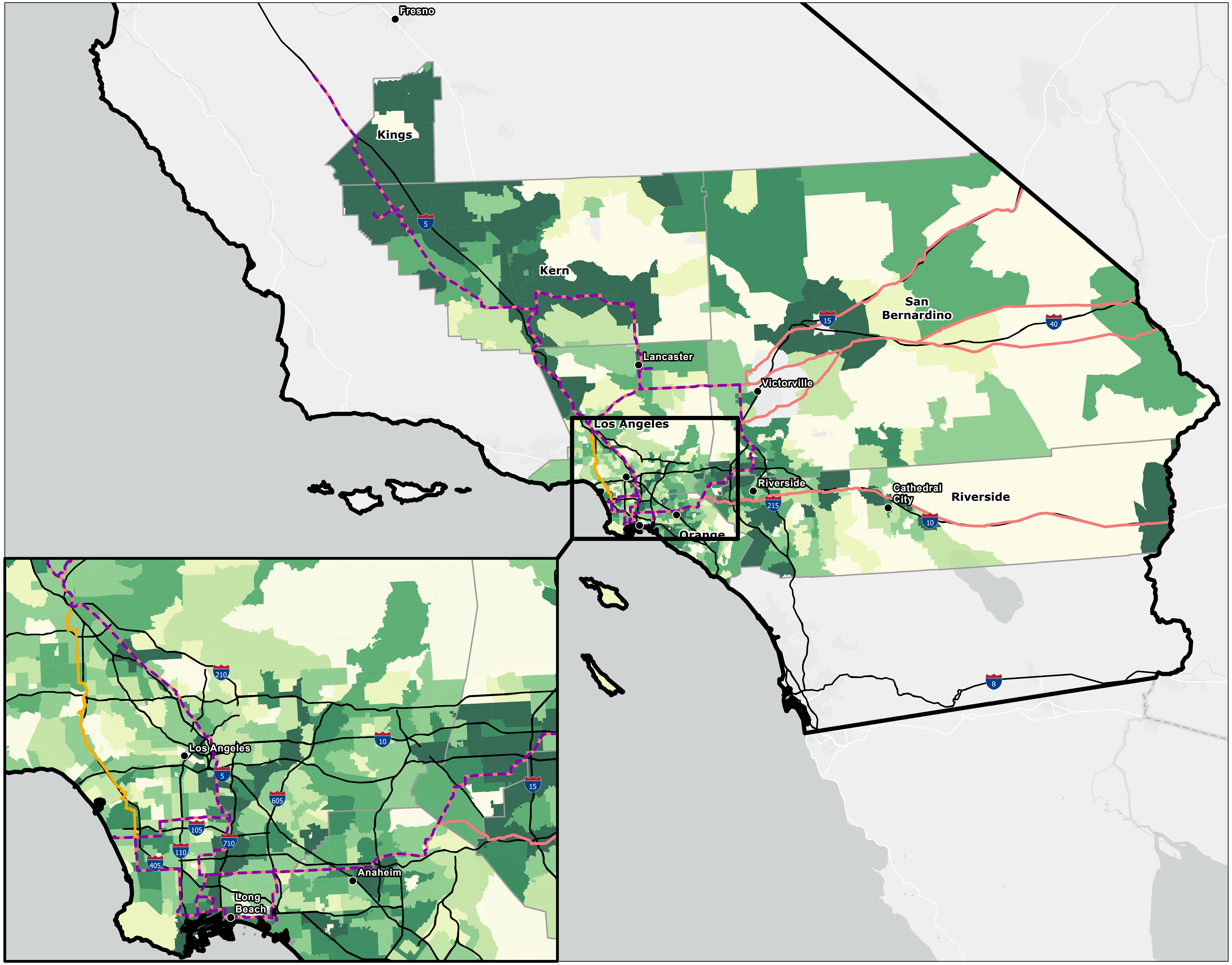


Figure No.
A-3

Title
NOx Emissions Reductions 2040, Market Demand: Total, Conservative

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

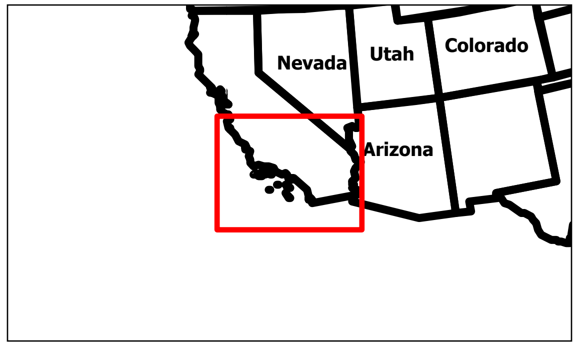
Project Location Prepared by BS on 2024-07-19
California

N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2040, Conservative Scenario
- ▨ 0.00 - 0.05 tons/year NOx
- ▨ 0.05 - 0.12 tons/year NOx
- ▨ 0.12 - 0.23 tons/year NOx
- ▨ 0.23 - 0.37 tons/year NOx
- ▨ 0.37 - 0.55 tons/year NOx
- ▨ 0.55 - 5.7 tons/year NOx
- ▨ >5.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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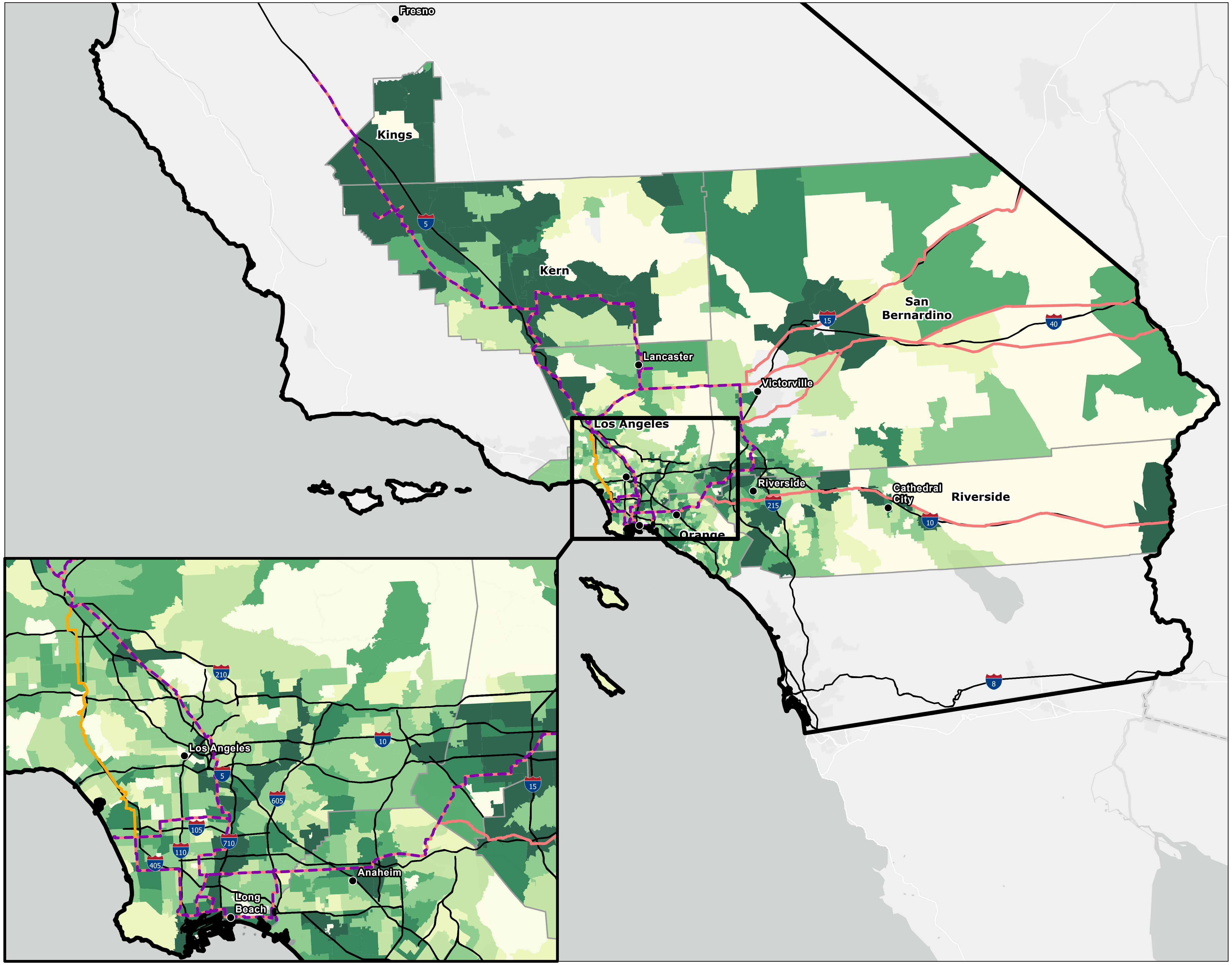


Figure No.

A-4

Title

NOx Emissions Reductions 2045, Market Demand: Total, Conservative

Client/Project 203723235

Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

Prepared by BS on 2024-07-19

N

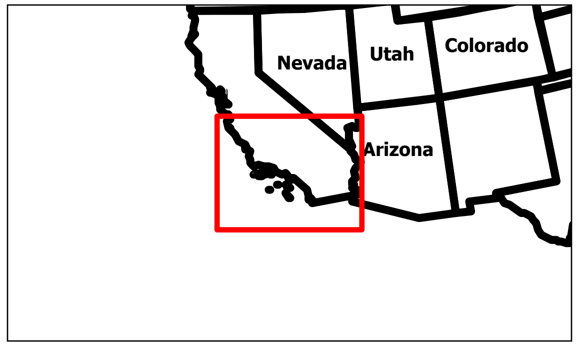
0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend

- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2045, Conservative Scenario

- 🟩 0.00 - 0.06 tons/year NOx
- 🟩 0.06 - 0.16 tons/year NOx
- 🟩 0.16 - 0.32 tons/year NOx
- 🟩 0.32 - 0.51 tons/year NOx
- 🟩 0.51 - 0.78 tons/year NOx
- 🟩 0.78 - 7.7 tons/year NOx
- 🟩 >7.7 tons/year NOx



Notes

1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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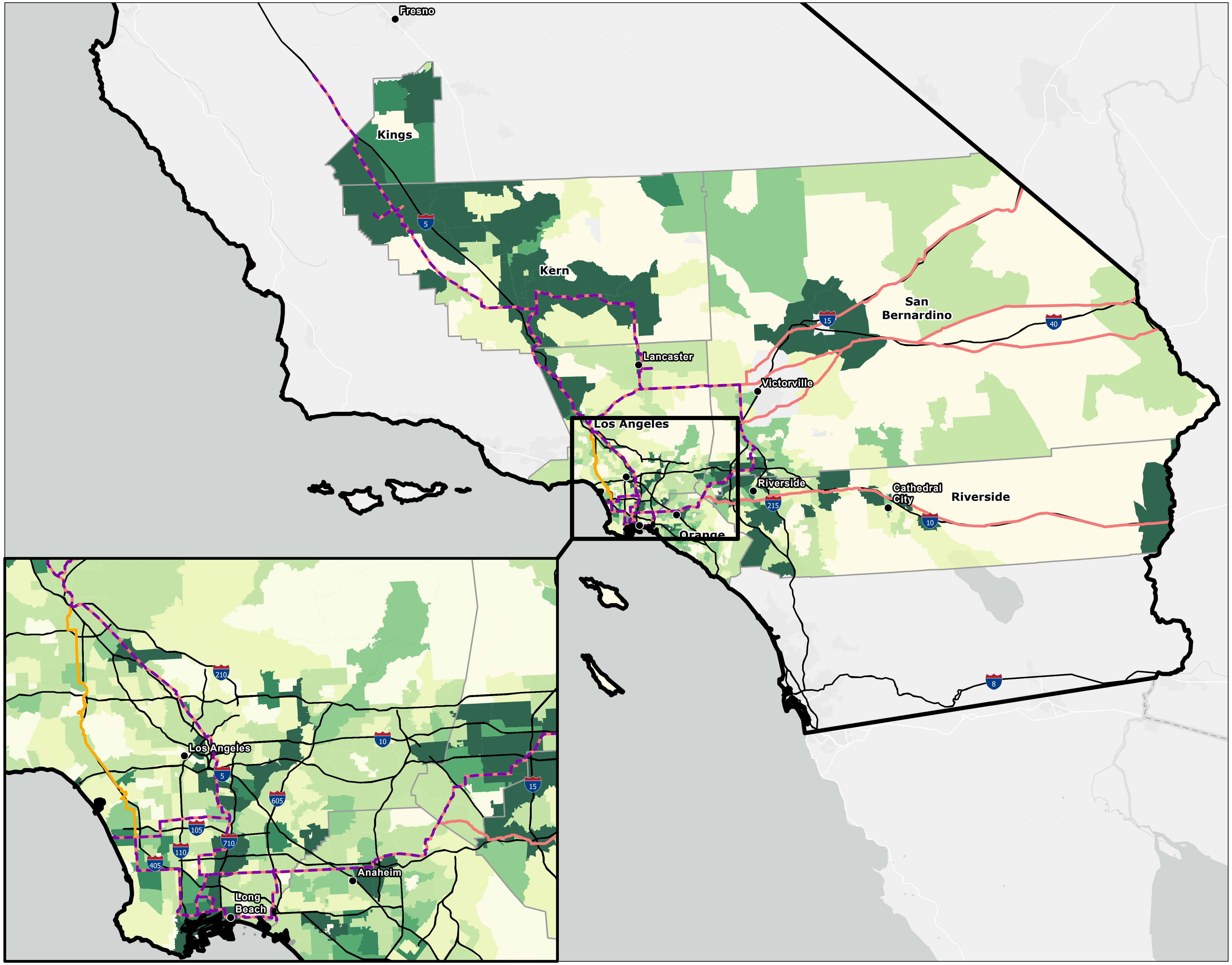


Figure No.
A-5

Title
NOx Emissions Reductions 2030, Market Demand: Total, Ambitious

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

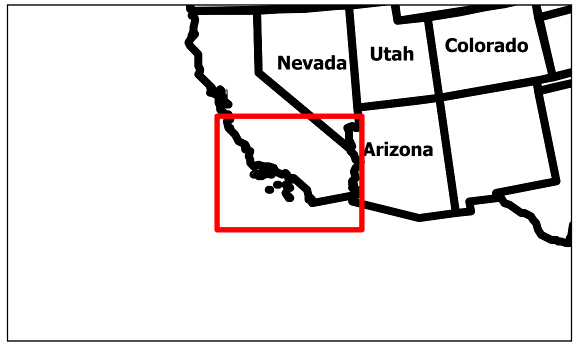
Prepared by BS on 2024-07-19

N

0 20 40
Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2030, Ambitious Scenario
- ▢ 0.00 - 0.06 tons/year NOx
- ▢ 0.06 - 0.16 tons/year NOx
- ▢ 0.16 - 0.32 tons/year NOx
- 🟩 0.32 - 0.51 tons/year NOx
- 🟩 0.51 - 0.78 tons/year NOx
- 🟩 0.78 - 7.7 tons/year NOx
- 🟩 >7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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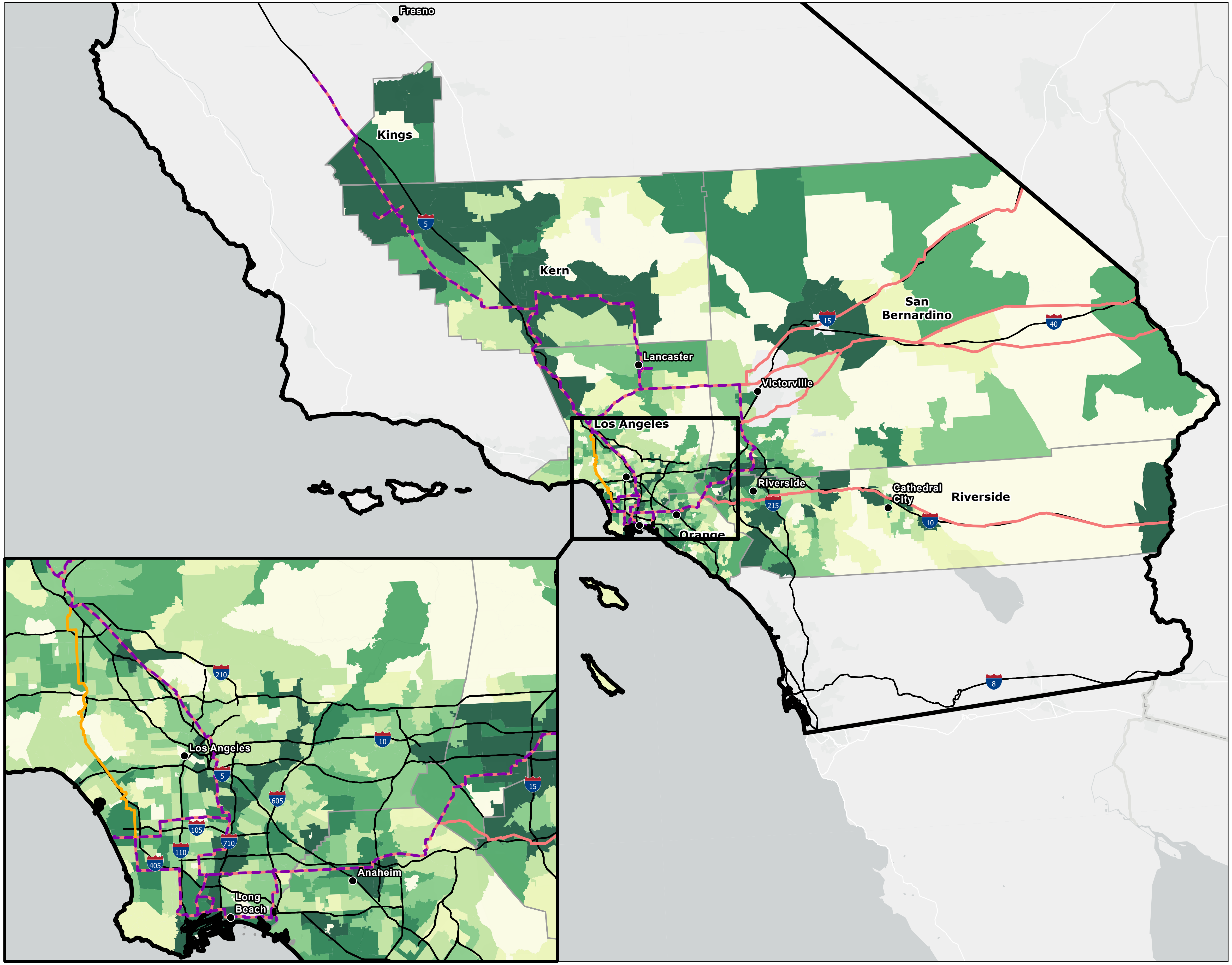


Figure No.

A-6

Title

NOx Emissions Reductions 2035, Market Demand: Total, Ambitious

Client/Project 203723235

Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location Prepared by BS on 2024-07-19

California

N

0 20 40 Miles

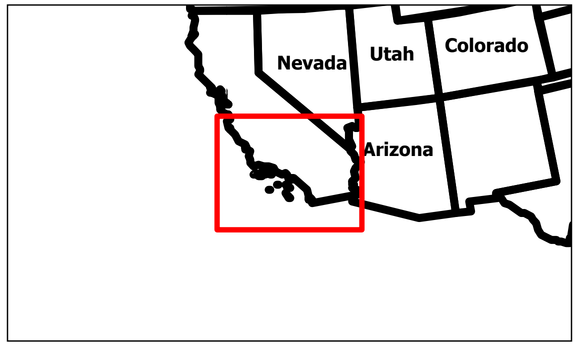
(At original document size of 11x17)
1:2,534,400

Legend

- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- ‐ ‐ Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2035, Ambitious Scenario

- 0.00 - 0.06 tons/year NOx
- 0.06 - 0.16 tons/year NOx
- 0.16 - 0.32 tons/year NOx
- 0.32 - 0.51 tons/year NOx
- 0.51 - 0.78 tons/year NOx
- 0.78 - 7.7 tons/year NOx
- \>7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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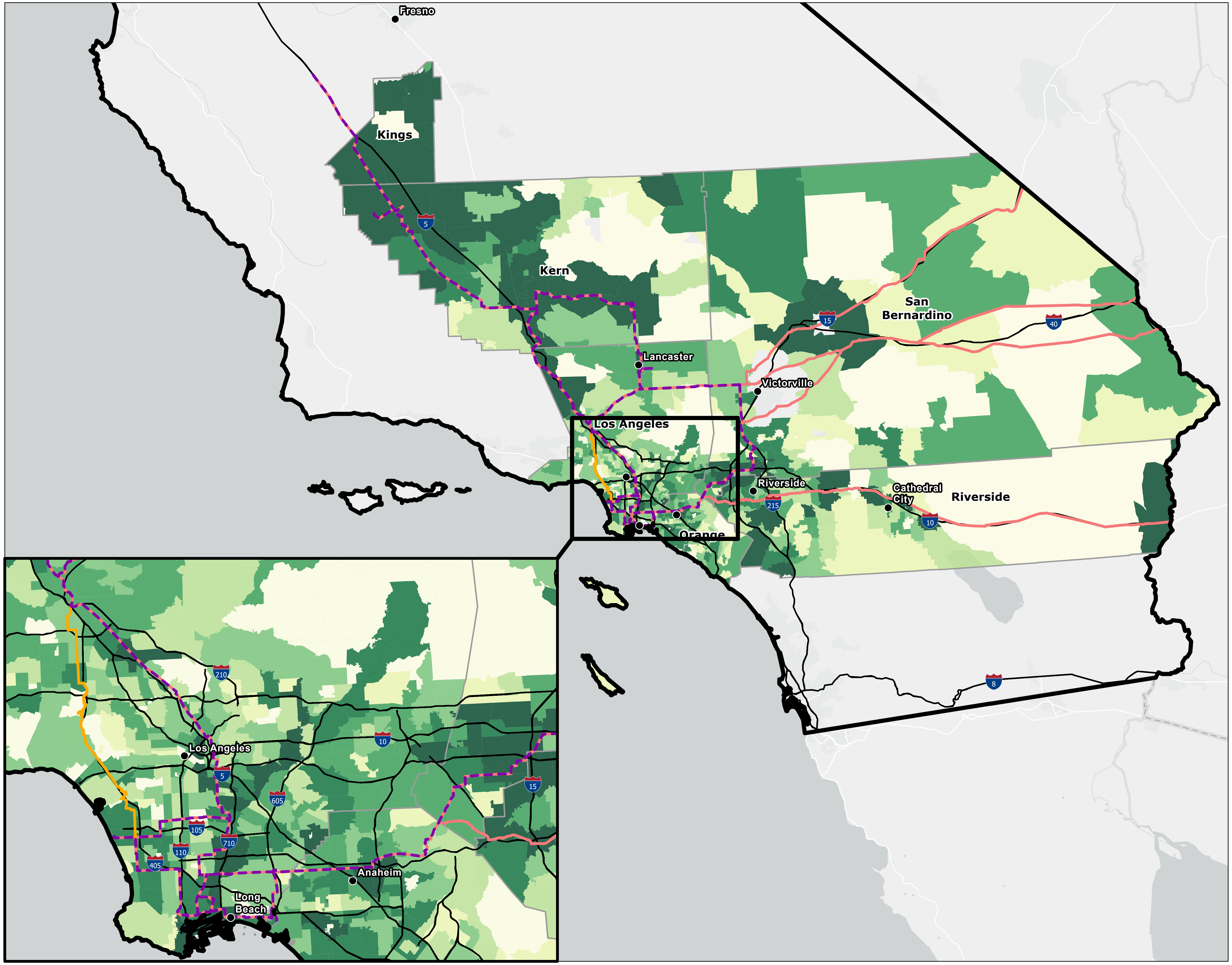


Figure No.
A-7

Title
NOx Emissions Reductions 2040, Market Demand: Total, Ambitious

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location Prepared by BS on 2024-07-19
California

N

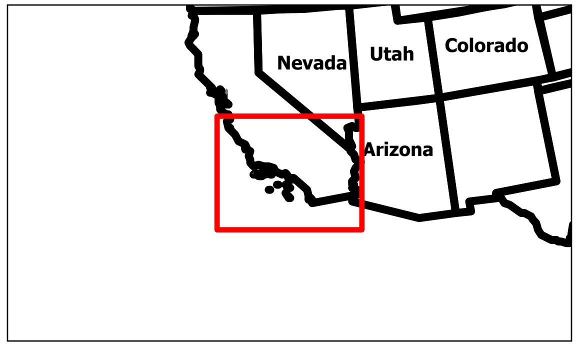
0 20 40
Miles
(At original document size of 11x17)
1:2,534,400

Legend

●	Major Cities
▭	State Boundary
▭	Counties
—	Interstate/Highway
- -	Preferred Routes (combined)
—	Route Variation 1
—	Initial Corridors Evaluated

Reduction in NOx Emissions in 2040, Ambitious Scenario

🟩	0.00 - 0.06 tons/year NOx
🟩	0.06 - 0.16 tons/year NOx
🟩	0.16 - 0.32 tons/year NOx
🟩	0.32 - 0.51 tons/year NOx
🟩	0.51 - 0.78 tons/year NOx
🟩	0.78 - 7.7 tons/year NOx
🟩	>7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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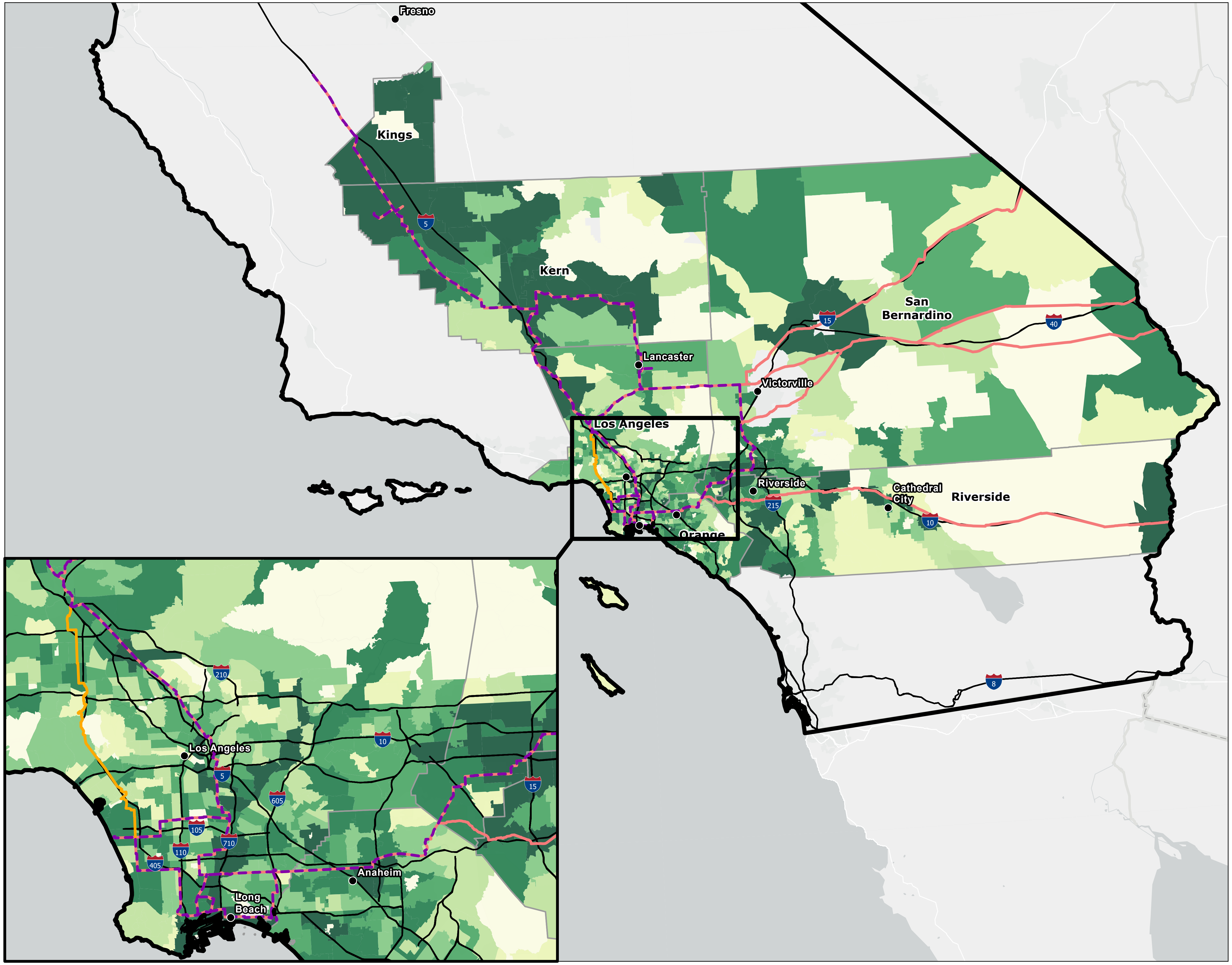


Figure No.
A-8

Title
NOx Emissions Reductions 2045, Market Demand: Total, Ambitious

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

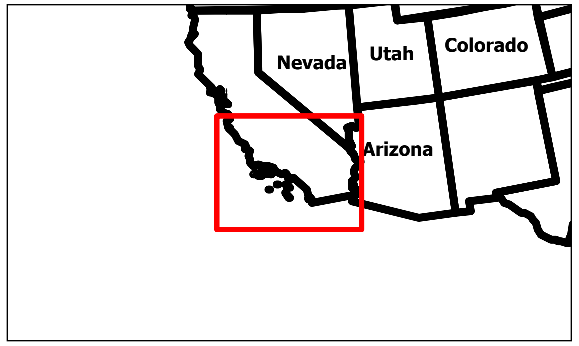
Project Location Prepared by BS on 2024-07-19
California

N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1
- — Initial Corridors Evaluated

Reduction in NOx Emissions in 2045, Ambitious Scenario
- ▨ 0.00 - 0.06 tons/year NOx
- ▨ 0.06 - 0.16 tons/year NOx
- ▨ 0.16 - 0.32 tons/year NOx
- ▨ 0.32 - 0.51 tons/year NOx
- ▨ 0.51 - 0.78 tons/year NOx
- ▨ 0.78 - 7.7 tons/year NOx
- ▨ >7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
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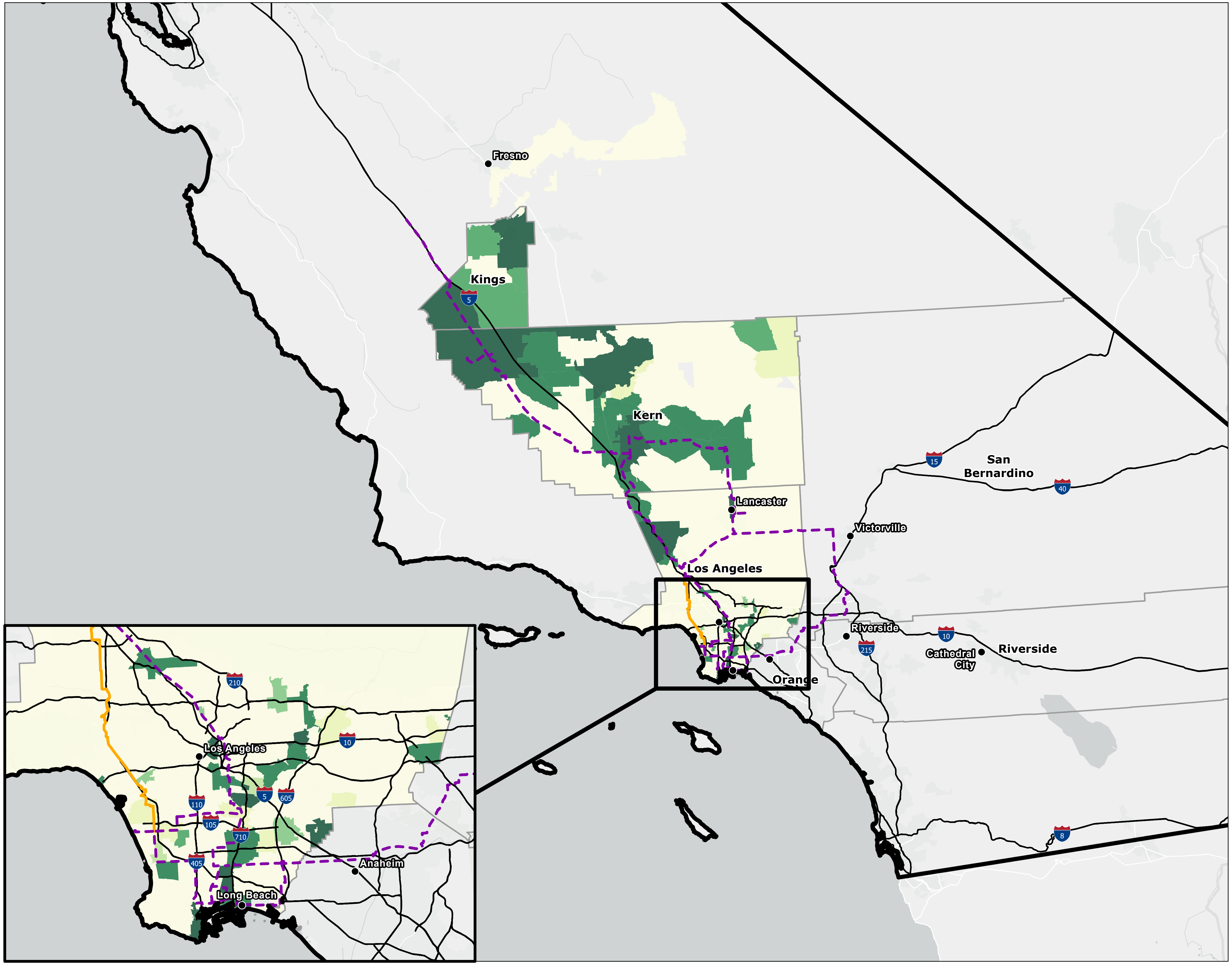


Figure No.
A-9

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2030 Total, Low Throughput

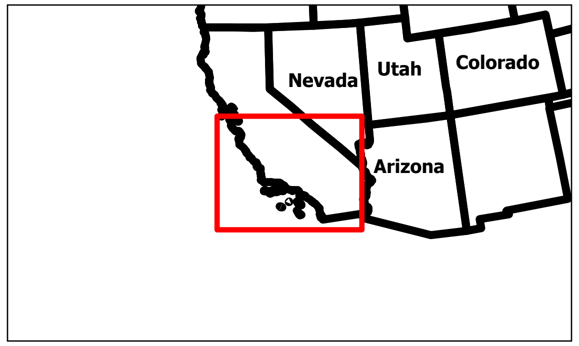
Client/Project
203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California
Prepared by BS on 2024-07-19

N
0 20 40
Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2030, Low Scenario
- 🟩 0.00 - 0.05 tons/year NOx
- 🟩 0.05 - 0.12 tons/year NOx
- 🟩 0.12 - 0.23 tons/year NOx
- 🟩 0.23 - 0.37 tons/year NOx
- 🟩 0.37 - 0.55 tons/year NOx
- 🟩 0.55 - 5.7 tons/year NOx
- 🟩 >5.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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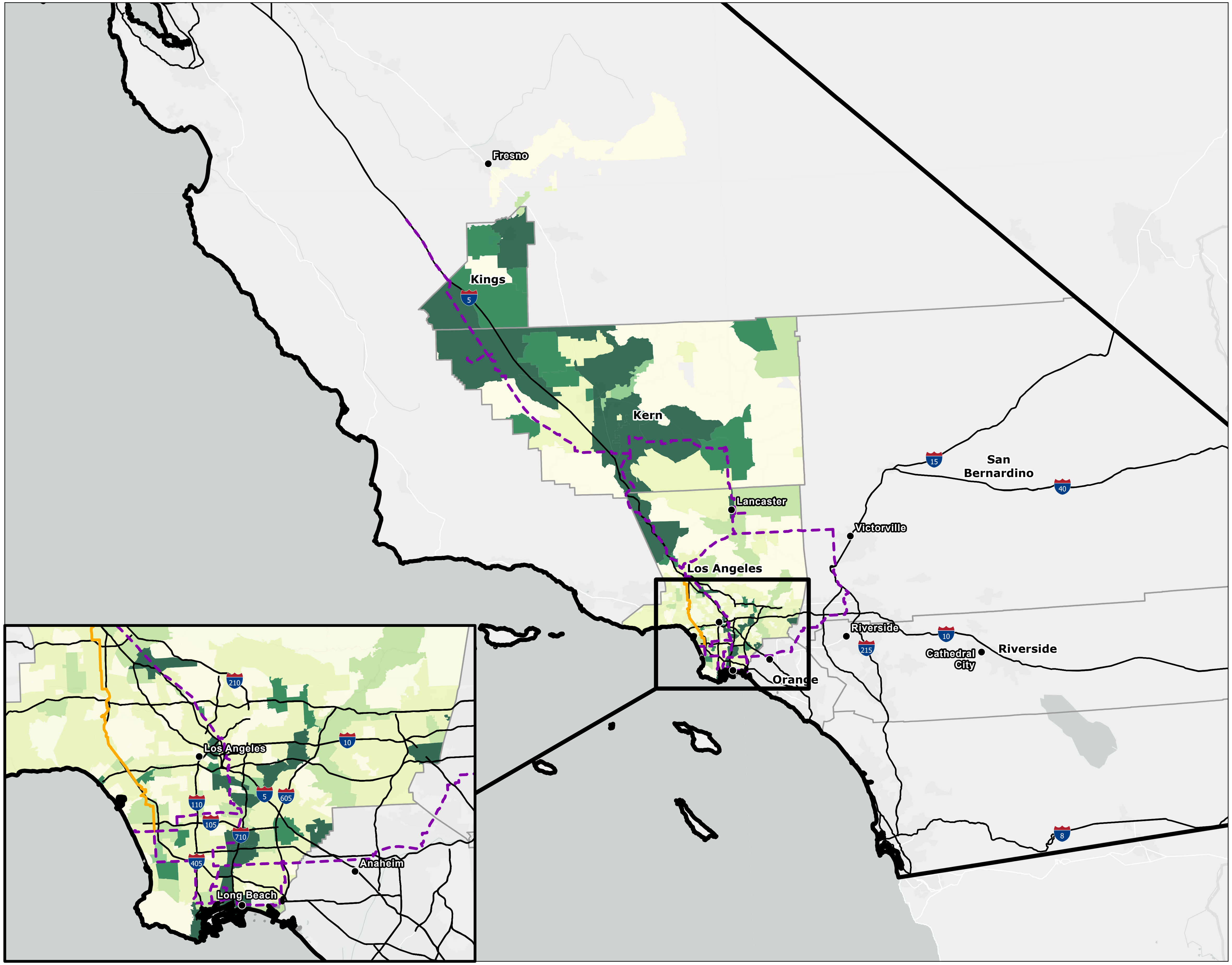


Figure No.
A-10

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2035 Total, Low Throughput

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

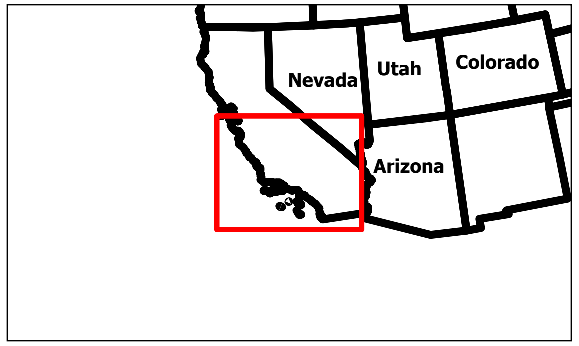
Project Location Prepared by BS on 2024-07-19
California

N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▬ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2035, Low Scenario
- 🟩 0.00 - 0.05 tons/year NOx
- 🟩 0.05 - 0.12 tons/year NOx
- 🟩 0.12 - 0.23 tons/year NOx
- 🟩 0.23 - 0.37 tons/year NOx
- 🟩 0.37 - 0.55 tons/year NOx
- 🟩 0.55 - 5.7 tons/year NOx
- 🟩 >5.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
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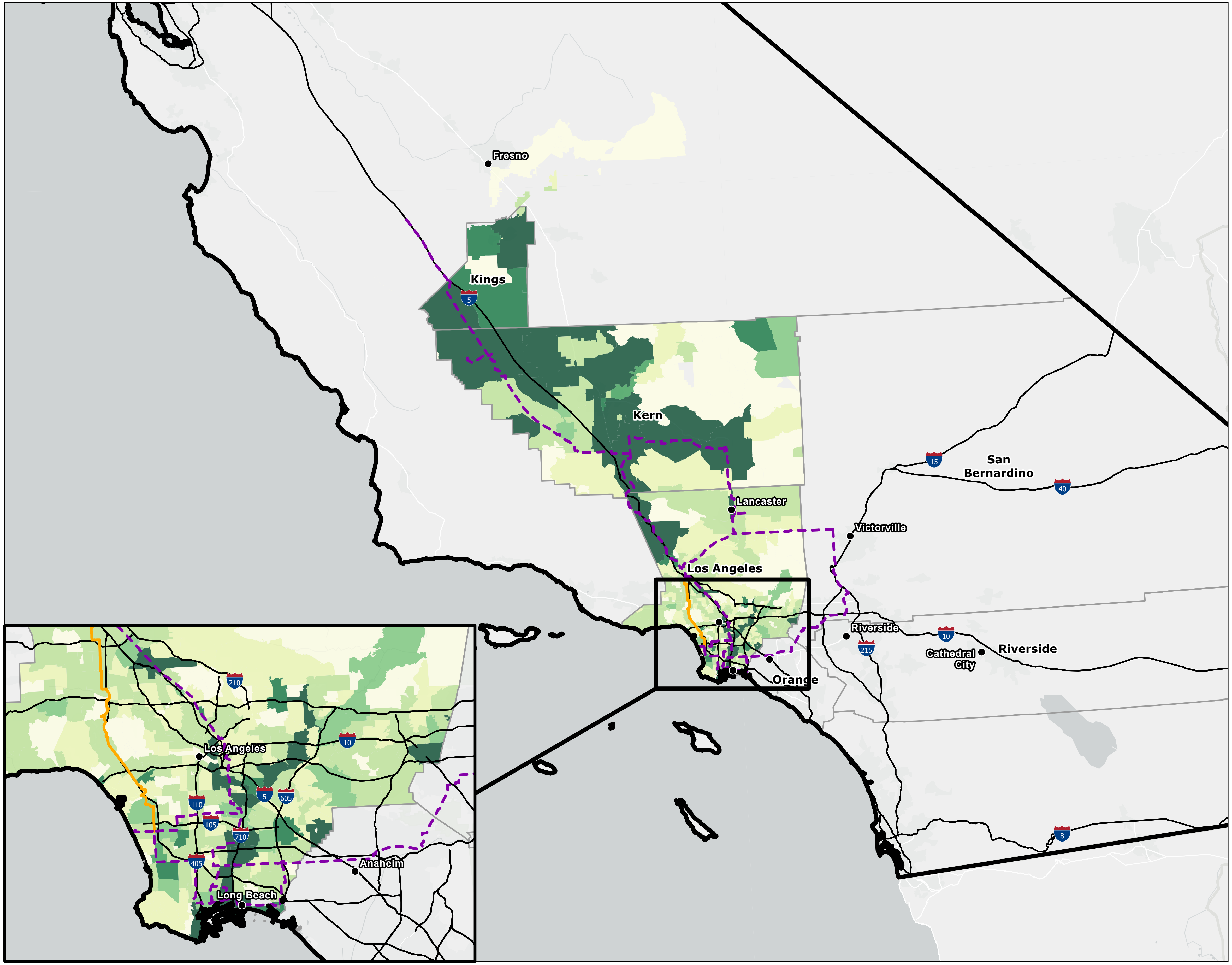


Figure No.
A-11

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2040: Total, Low Throughput

Client/Project
203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

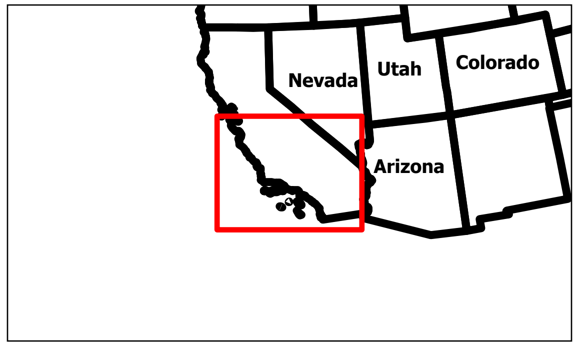
Project Location
California
Prepared by BS on 2024-07-19

N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2040, Low Scenario
- 🟩 0.00 - 0.05 tons/year NOx
- 🟩 0.05 - 0.12 tons/year NOx
- 🟩 0.12 - 0.23 tons/year NOx
- 🟩 0.23 - 0.37 tons/year NOx
- 🟩 0.37 - 0.55 tons/year NOx
- 🟩 0.55 - 5.7 tons/year NOx
- 🟩 >5.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
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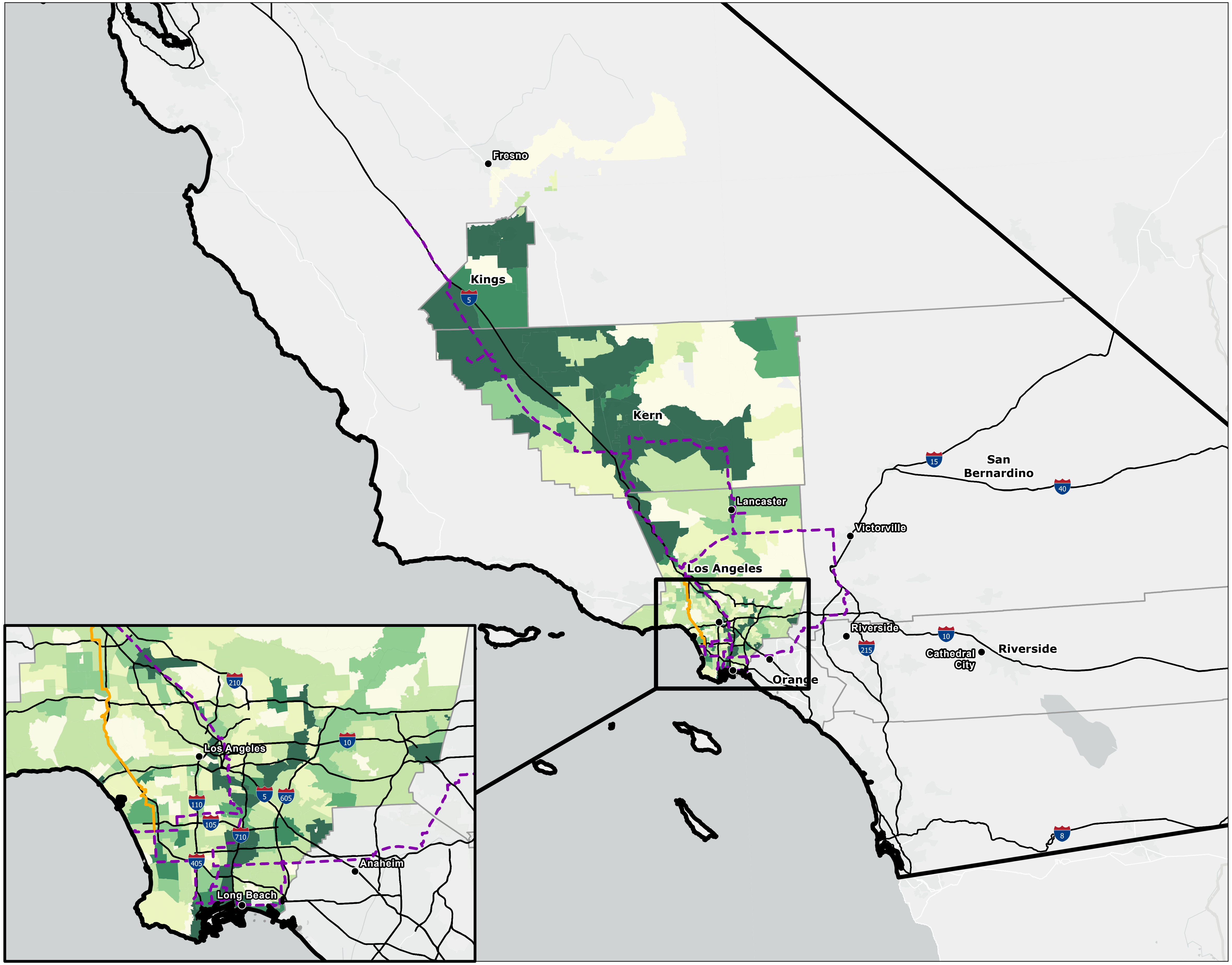


Figure No.
A-12

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2045: Total, Low Throughput

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

Prepared by BS on 2024-07-19

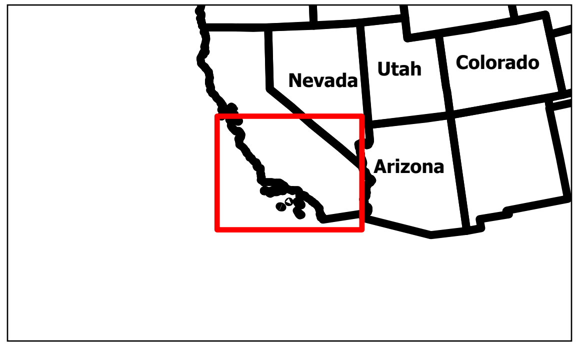
N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2045, Low Scenario

- 0.00 - 0.05 tons/year NOx
- 0.05 - 0.12 tons/year NOx
- 0.12 - 0.23 tons/year NOx
- 0.23 - 0.37 tons/year NOx
- 0.37 - 0.55 tons/year NOx
- 0.55 - 5.7 tons/year NOx
- >5.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
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6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

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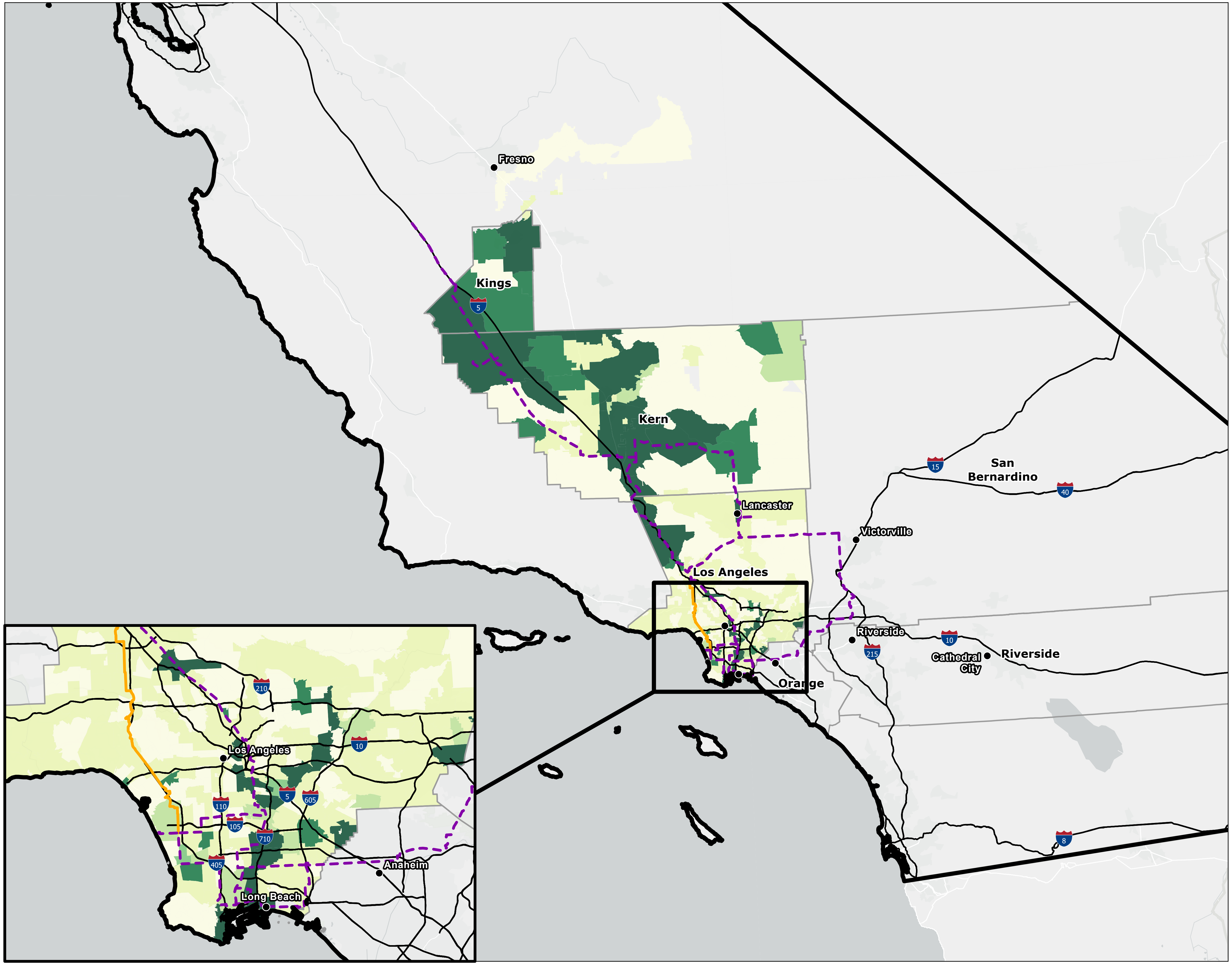


Figure No.
A-13

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2030 Total, High Throughput

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

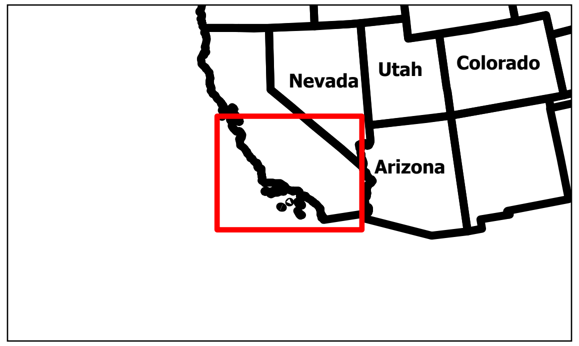
Prepared by BS on 2024-07-19

N

0 20 40 Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ▭ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2030, High Scenario
- 🟩 0.00 - 0.06 tons/year NOx
- 🟩 0.06 - 0.16 tons/year NOx
- 🟩 0.16 - 0.32 tons/year NOx
- 🟩 0.32 - 0.51 tons/year NOx
- 🟩 0.51 - 0.78 tons/year NOx
- 🟩 0.78 - 7.7 tons/year NOx
- 🟩 >7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
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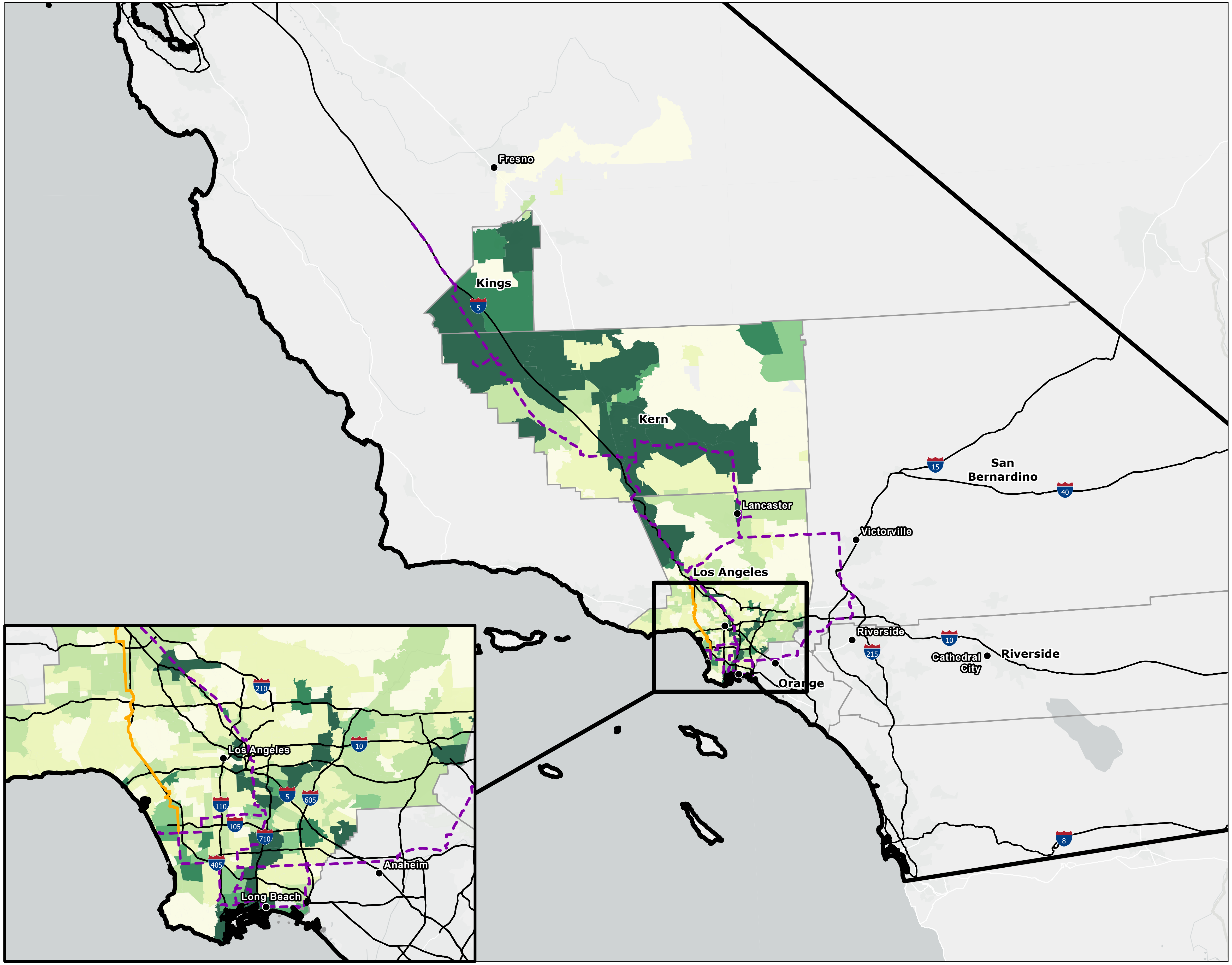


Figure No.
A-14

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2035 Total, High Throughput

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

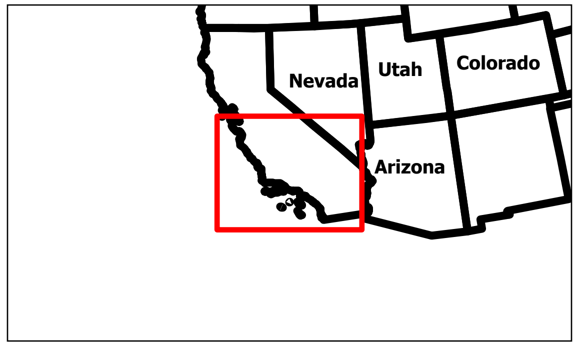
Prepared by BS on 2024-07-19

N

0 20 40
Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2035, High Scenario
- 🟩 0.00 - 0.06 tons/year NOx
- 🟩 0.06 - 0.16 tons/year NOx
- 🟩 0.16 - 0.32 tons/year NOx
- 🟩 0.32 - 0.51 tons/year NOx
- 🟩 0.51 - 0.78 tons/year NOx
- 🟩 0.78 - 7.7 tons/year NOx
- 🟩 >7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
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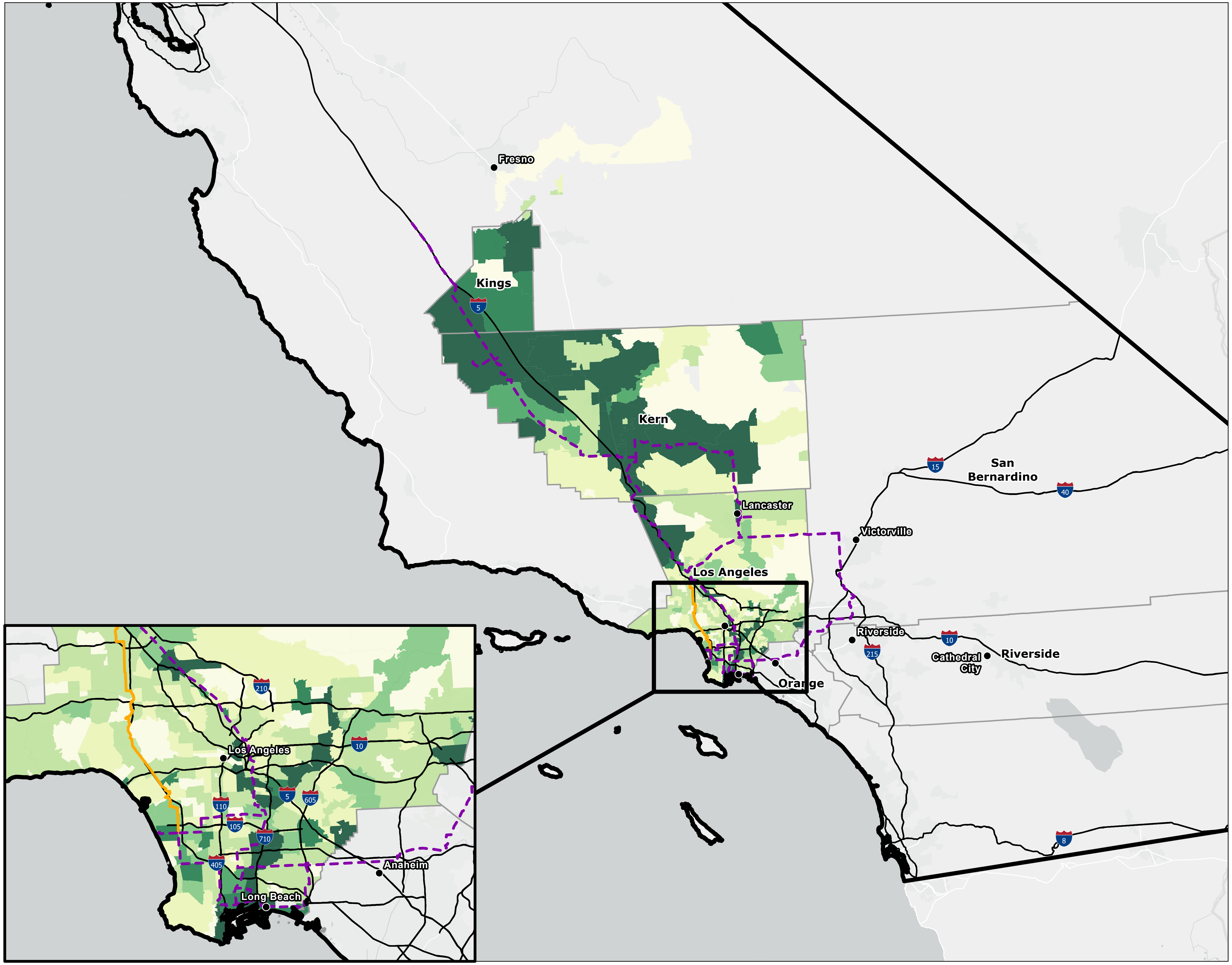


Figure No.
A-15

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2040: Total, High Throughput

Client/Project 203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

Project Location
California

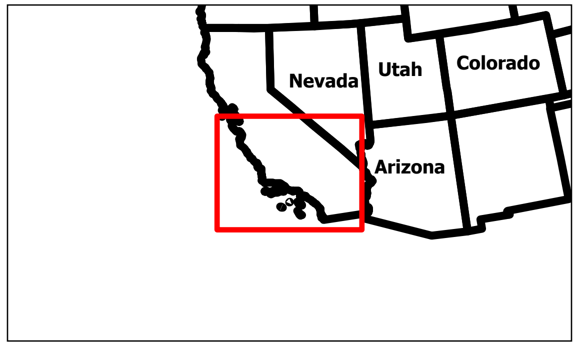
Prepared by BS on 2024-07-19

N

0 20 40
Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2040, High Scenario
- 🟩 0.00 - 0.06 tons/year NOx
- 🟩 0.06 - 0.16 tons/year NOx
- 🟩 0.16 - 0.32 tons/year NOx
- 🟩 0.32 - 0.51 tons/year NOx
- 🟩 0.51 - 0.78 tons/year NOx
- 🟩 0.78 - 7.7 tons/year NOx
- 🟩 >7.7 tons/year NOx



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
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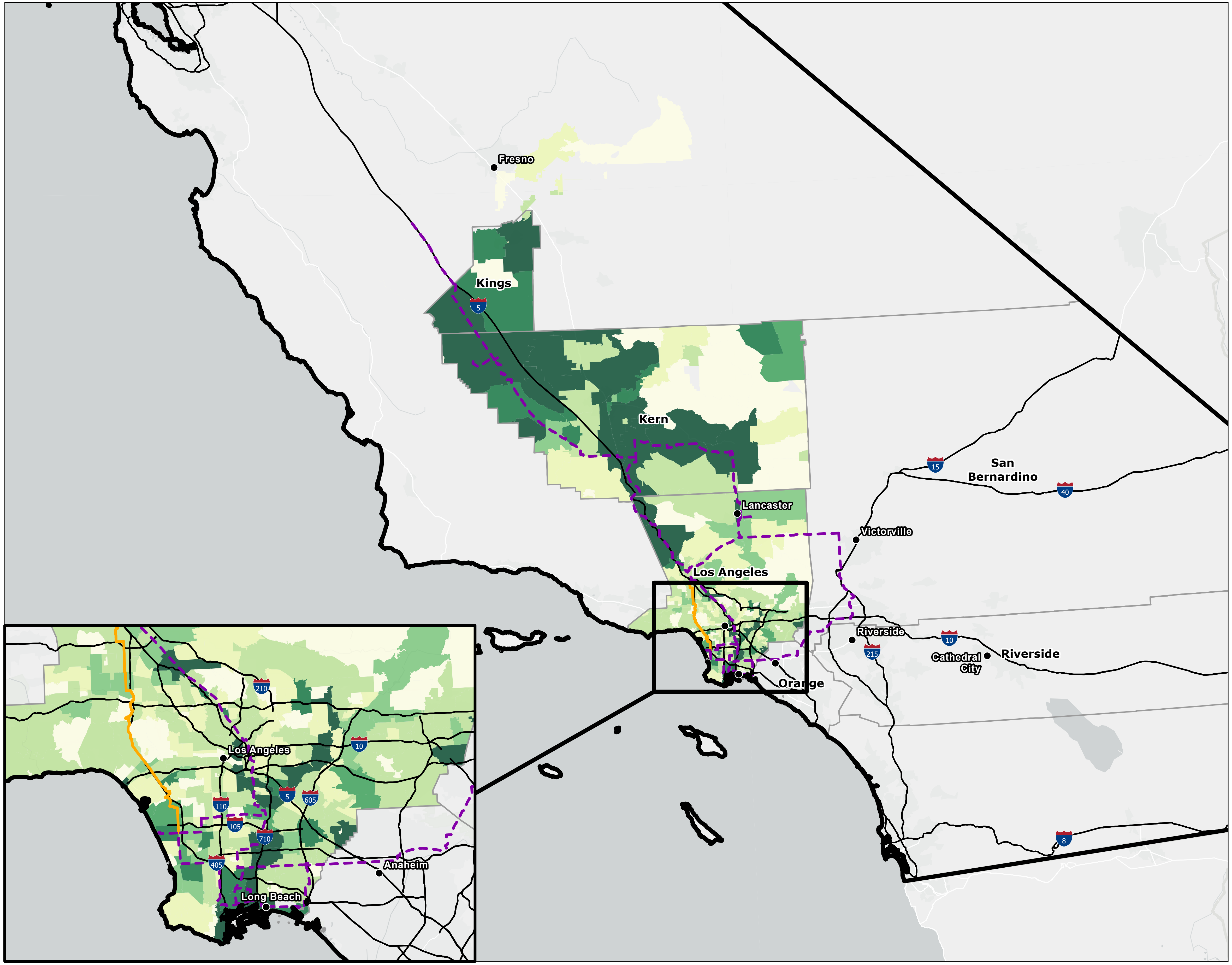


Figure No.
A-16

Title
NOx Emissions Reductions Associated With Angeles Link (AL) 2045: Total, High Throughput

Client/Project
203723235
Southern California Gas Company (SoCalGas)
Phase One NOx Study

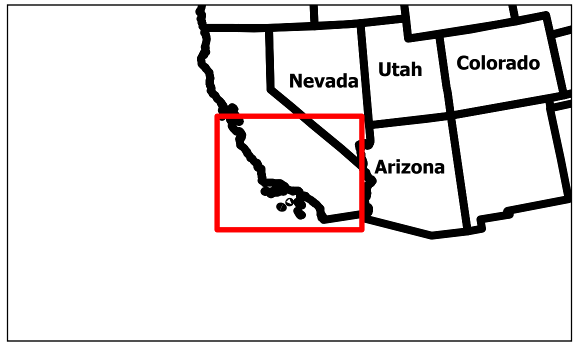
Project Location
California
Prepared by BS on 2024-07-19

N

0 20 40
Miles
(At original document size of 11x17)
1:2,534,400

Legend
- ● Major Cities
- ▭ State Boundary
- ☐ Counties
- — Interstate/Highway
- - - Preferred Routes (combined)
- — Route Variation 1

Reduction in NOx Emissions Attributable to AL in 2045, High Scenario
- 🟩 0.00 - 0.06 tons/year NOx
- 🟩 0.06 - 0.16 tons/year NOx
- 🟩 0.16 - 0.32 tons/year NOx
- 🟩 0.32 - 0.51 tons/year NOx
- 🟩 0.51 - 0.78 tons/year NOx
- 🟩 0.78 - 7.7 tons/year NOx
- 🟩 >7.7 tons/year NOx



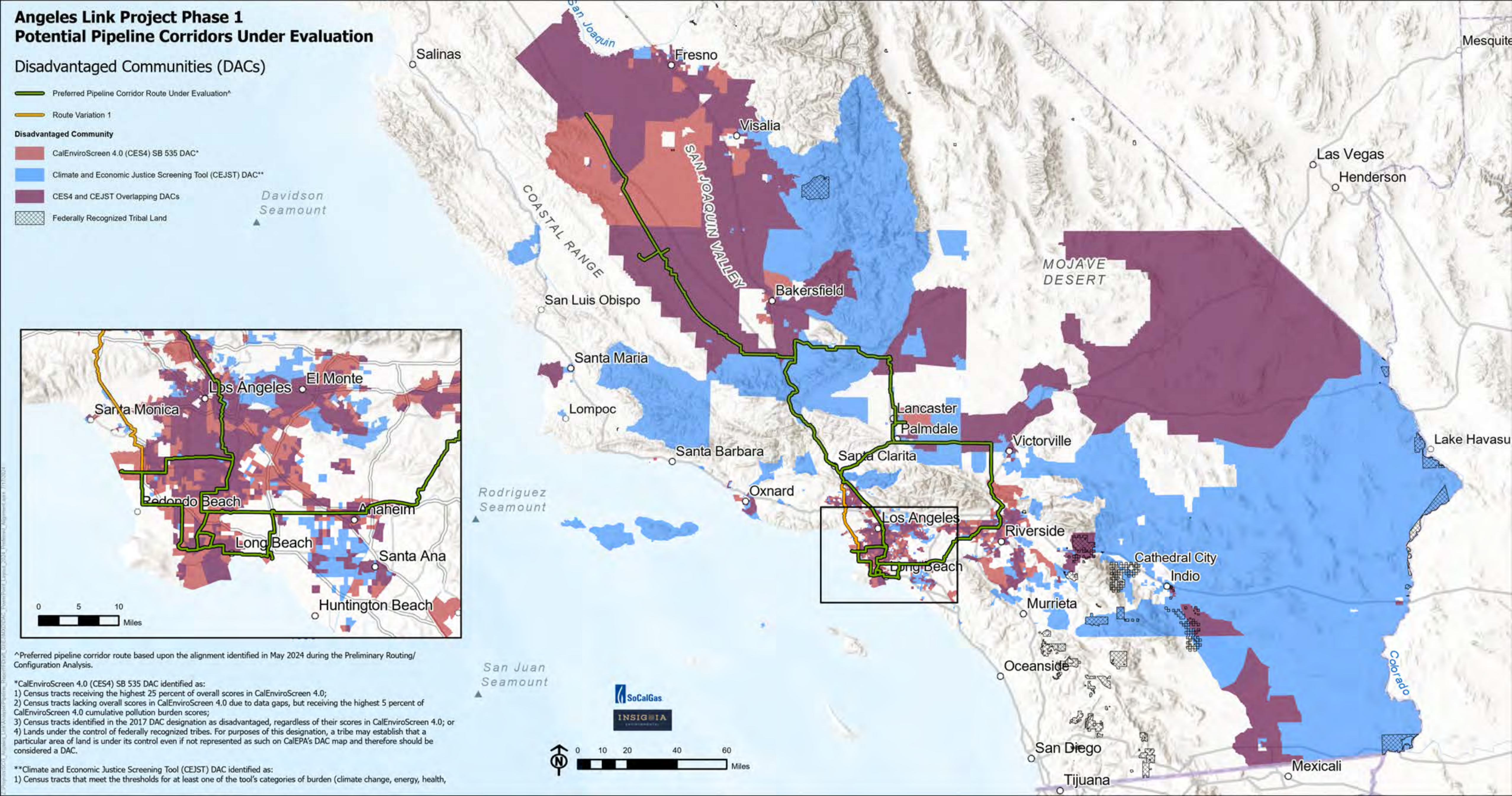
Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: USGS, OEHHA, CalEPA, CEQ
3. Background: ESRI Basemap
4. Figure depicts overall NOx emission reductions allocated by zip code
5. NOx emissions reductions by zip code are based on Demand Study hydrogen data
6. The NOx emissions reduction benefits depicted on the map are focused within the counties through which the Angeles Link would potentially pass. These benefits could potentially extend beyond these boundaries

V:\2277\active\203723235\03_data\gis_cad\gis\pro\angelesconnect\angelesconnect.aprx Revised: 2024-07-19 By: bschafermeyer

Appendix B: EJ Map

Angeles Link Project Phase 1
Potential Pipeline Corridors Under Evaluation

Disadvantaged Communities (DACs)



^Preferred pipeline corridor route based upon the alignment identified in May 2024 during the Preliminary Routing/ Configuration Analysis.

*CalEnviroScreen 4.0 (CES4) SB 535 DAC identified as:
1) Census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0;
2) Census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps, but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative pollution burden scores;
3) Census tracts identified in the 2017 DAC designation as disadvantaged, regardless of their scores in CalEnviroScreen 4.0; or
4) Lands under the control of federally recognized tribes. For purposes of this designation, a tribe may establish that a particular area of land is under its control even if not represented as such on CalEPA's DAC map and therefore should be considered a DAC.

**Climate and Economic Justice Screening Tool (CEJST) DAC identified as:
1) Census tracts that meet the thresholds for at least one of the tool's categories of burden (climate change, energy, health,

Appendix D

NOx Results, Calculations, and Data

APPENDIX D – NOX RESULTS, CALCULATIONS, AND DATA

DESCRIPTION

Appendix D contains select PDF printouts of the NOx results, calculations, and data.

TABLE OF CONTENTS

* This tab is represented by a sample pdf calculation sheet depicting a specific calculation scenario.

Appendix D.1:

Compiled Results

NOx Results, Calculations, and Data

Tab Contents

Summary of NOx emissions results and minor calculations used to develop results. Primarily presents results for industrial, power generation, mobility. Includes some results for infrastructure.

This tab includes the acronym PRJ. This refers to the project (PRJ) scenario used in the calculation process (particularly for stationary sources). The PRJ scenario encompasses emissions for a sector or subsector including hydrogen adoption. For end-users, the PRJ scenarios are sector-wide representations of emissions, therefore PRJ scenario emissions will encompass emissions from sources that switched to hydrogen or blended fuels and emissions from sources that remained combusting fossil fuels. For stationary sources (industrial and power), PRJ scenarios were used to develop change in emissions results by subtracting the baseline from the project scenario emissions. For mobility, change in emissions were developed without considering a PRJ scenario, but this information was still developed and included for consistency within the end-user results. The key findings reported in this study were change in emissions (due to hydrogen adoption either at a market level or as supplied by Angeles Link). While PRJ scenario information was used to develop certain results, this information is secondary to the core results of this study.

The timeframe of this study was 2030-2045, however this tab also contains data from 2025-2029 which is hidden. These results were calculated using data from the demand study which was available for all end-user segments. It should be noted that results from 2046-2050 were also developed for the industrial and power generation end-user sectors since this data was available in the demand study, but that data was not included here because it was not available for mobility.

Demand Scenario NOx Summary

Change in NOx (ton NOx/yr) - Conservative

		Year															
Segment	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Industry (Hard-to-Electrify)	Refineries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industry (Hard-to-Electrify)	FoodBeverage	-0.6	-0.7	-0.8	-0.9	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5
Industry (Hard-to-Electrify)	Metals	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0	-1.1	-1.1
Industry (Hard-to-Electrify)	StoneGlassCement	-1.3	-1.5	-1.7	-1.8	-1.9	-2.1	-2.2	-2.3	-2.4	-2.5	-2.5	-2.6	-2.7	-2.7	-2.8	-2.8
Industry (Hard-to-Electrify)	Paper	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5
Industry (Hard-to-Electrify)	Chemicals	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Industry (Hard-to-Electrify)	AeroSpaceDefense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Power	PeakerBaseload	-0.2	-0.4	-0.7	-1.2	-1.7	-2.4	-3.1	-4.0	-4.9	-6.0	-7.2	-8.6	-10.0	-11.6	-13.4	-15.2
Power	Cogeneration	0.0	-0.1	-0.2	-0.3	-0.4	-0.6	-0.7	-1.0	-1.2	-1.5	-1.8	-2.1	-2.5	-2.9	-3.3	-3.8
Mobility	MDV	-92.0	-122.5	-161.1	-208.0	-263.6	-327.0	-384.5	-435.1	-481.1	-522.2	-559.4	-595.3	-628.6	-663.3	-690.7	-718.2
Mobility	HDV	-631.1	-842.0	-1,190.1	-1,683.9	-2,333.9	-3,150.1	-3,913.7	-4,630.5	-5,301.0	-5,933.4	-6,531.5	-7,214.8	-7,993.0	-8,864.0	-9,821.9	-10,866.5
Mobility	Bus	-207.0	-260.3	-313.2	-359.7	-401.3	-446.4	-514.6	-590.5	-652.6	-706.3	-750.7	-779.5	-810.9	-862.2	-902.8	-940.6
Mobility	Agriculture	-32.2	-43.0	-53.4	-63.3	-72.7	-81.4	-92.6	-105.9	-121.3	-138.4	-157.1	-174.3	-189.6	-203.7	-216.3	-227.7
Mobility	CHC	-13.0	-19.2	-23.8	-28.1	-32.6	-89.3	-144.9	-190.2	-225.5	-252.5	-273.2	-292.8	-312.5	-332.4	-352.6	-372.7
Mobility	CHE	-38.5	-52.0	-52.8	-65.9	-71.7	-77.3	-83.8	-89.9	-103.7	-106.3	-125.6	-152.1	-167.4	-184.2	-198.4	-212.6
Mobility	Construction & Mining	-89.9	-132.4	-196.5	-282.8	-387.9	-509.7	-581.3	-673.5	-756.9	-835.4	-912.9	-984.2	-1,050.6	-1,112.7	-1,171.3	-1,227.2
Mobility	GSE	-13.6	-19.8	-27.6	-37.6	-49.7	-64.1	-75.8	-88.4	-100.1	-111.0	-121.1	-128.4	-135.0	-141.2	-146.8	-151.9
Total End-Use	**ALL**	**-1,120.3**	**-1,494.8**	**-2,022.9**	**-2,734.7**	**-3,619.5**	**-4,752.5**	**-5,799.6**	**-6,813.7**	**-7,753.2**	**-8,618.2**	**-9,445.7**	**-10,337.7**	**-11,306.0**	**-12,384.1**	**-13,523.5**	**-14,742.6**
Infrastructure	Storage (Maximum)	25.8	34.4	46.2	61.4	80.0	102.7	126.2	149.7	173.1	196.6	220.5	246.9	275.7	306.6	339.7	374.9
Infrastructure	Transmission (Maximum	19.4	25.8	34.6	46.0	59.9	76.9	94.5	112.1	129.6	147.2	165.1	185.0	206.5	229.6	254.4	280.8
Infrastructure	Production (Maximum)	16.5	22.0	29.6	39.2	51.2	65.7	80.7	95.7	110.7	125.7	141.0	157.9	176.3	196.1	217.3	239.8
Infrastructure	**ALL**	**61.7**	**82.3**	**110.4**	**146.6**	**191.1**	**245.2**	**301.4**	**357.5**	**413.4**	**469.5**	**526.6**	**589.8**	**658.4**	**732.3**	**811.4**	**895.6**
TOTAL Project	**End-User & Infrastructure**	**-1,058.6**	**-1,412.6**	**-1,912.4**	**-2,588.1**	**-3,428.4**	**-4,507.3**	**-5,498.2**	**-6,456.2**	**-7,339.8**	**-8,148.6**	**-8,919.2**	**-9,747.8**	**-10,647.6**	**-11,651.8**	**-12,712.1**	**-13,847.0**

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
38		**Change in NOx (ton NOx/yr) - Moderate**																	
39				**Year**															
40		**End-User Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
41		Industry (Hard-to-Electrify)	Refineries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42		Industry (Hard-to-Electrify)	FoodBeverage	-1.3	-1.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.6	-2.8	-2.9	-3.1	-3.3	-3.5	-3.7	-3.8	-4.0
43		Industry (Hard-to-Electrify)	Metals	-0.6	-0.7	-0.8	-0.8	-0.9	-1.0	-1.0	-1.1	-1.2	-1.2	-1.3	-1.4	-1.4	-1.5	-1.6	-1.6
44		Industry (Hard-to-Electrify)	StoneGlassCement	-1.4	-1.6	-1.8	-1.9	-2.1	-2.2	-2.3	-2.5	-2.6	-2.7	-2.7	-2.8	-2.8	-2.9	-3.0	-3.0
45		Industry (Hard-to-Electrify)	Paper	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7
46		Industry (Hard-to-Electrify)	Chemicals	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.5
47		Industry (Hard-to-Electrify)	AeroSpaceDefense	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
48		Power	PeakerBaseload	-0.4	-1.0	-1.7	-2.8	-4.0	-5.5	-7.2	-9.2	-11.5	-14.0	-16.8	-19.9	-23.3	-27.1	-31.0	-35.3
49		Power	Cogeneration	-0.1	-0.2	-0.4	-0.6	-0.9	-1.3	-1.7	-2.2	-2.8	-3.4	-4.1	-4.9	-5.8	-6.7	-7.8	-8.8
50		Mobility	MDV	-190.2	-230.1	-276.9	-330.7	-391.5	-458.4	-517.4	-567.4	-611.6	-649.6	-682.6	-715.1	-745.6	-778.5	-803.6	-829.5
51		Mobility	HDV	-1,893.4	-2,289.3	-2,823.5	-3,502.7	-4,338.6	-5,341.0	-6,277.8	-7,160.0	-7,986.0	-8,767.0	-9,507.7	-10,278.3	-11,087.0	-11,934.5	-12,817.8	-13,740.6
52		Mobility	Bus	-427.7	-483.4	-530.5	-563.1	-586.7	-615.1	-673.9	-745.9	-802.9	-852.0	-891.8	-914.9	-942.5	-994.0	-1,033.9	-1,071.1
53		Mobility	Agriculture	-52.6	-68.7	-84.7	-100.4	-115.6	-130.4	-145.7	-161.3	-177.2	-193.3	-209.7	-224.8	-238.2	-250.6	-261.6	-271.6
54		Mobility	CHC	-16.3	-24.1	-30.0	-35.5	-41.3	-114.2	-185.6	-243.8	-289.1	-323.8	-350.3	-372.7	-392.2	-409.8	-425.8	-440.6
55		Mobility	CHE	-45.0	-60.0	-62.2	-80.9	-92.2	-104.7	-115.7	-123.4	-139.5	-139.0	-158.7	-187.3	-202.0	-218.7	-232.7	-246.8
56		Mobility	Construction & Mining	-218.2	-277.7	-348.5	-435.6	-535.1	-646.1	-703.3	-791.7	-873.2	-950.4	-1,026.5	-1,097.7	-1,165.8	-1,230.9	-1,293.5	-1,353.9
57		Mobility	GSE	-22.2	-30.4	-40.0	-51.4	-64.7	-79.8	-91.9	-105.1	-117.5	-129.0	-139.6	-147.2	-154.2	-160.6	-166.4	-171.8
58		**Total End-User**	**ALL**	**-2,869.6**	**-3,469.0**	**-4,203.0**	**-5,108.6**	**-6,176.5**	**-7,502.6**	**-8,726.8**	**-9,917.1**	**-11,018.6**	**-12,029.2**	**-12,995.8**	**-13,971.3**	**-14,965.4**	**-16,020.7**	**-17,083.7**	**-18,180.0**
59		Infrastructure	Storage (Maximum)	14.0	17.8	22.7	28.6	35.7	44.1	53.0	62.2	71.6	81.3	91.3	102.3	114.0	126.4	139.5	153.3
60		Infrastructure	Transmission (Maximum	41.7	53.2	67.7	85.4	106.6	131.6	158.1	185.6	213.6	242.4	272.4	305.3	340.2	377.3	416.4	457.5
61		Infrastructure	Production (Maximum)	35.6	45.4	57.8	72.9	91.1	112.4	135.0	158.5	182.4	207.0	232.6	260.7	290.5	322.1	355.5	390.6
62		**Infrastructure**	**ALL**	**91.3**	**116.4**	**148.2**	**186.9**	**233.4**	**288.1**	**346.1**	**406.3**	**467.6**	**530.7**	**596.3**	**668.3**	**744.8**	**825.8**	**911.4**	**1,001.4**
63		**TOTAL Project**	**End-User & Infrastructure**	**-2,778.4**	**-3,352.6**	**-4,054.8**	**-4,921.7**	**-5,943.0**	**-7,214.5**	**-8,380.7**	**-9,510.8**	**-10,551.0**	**-11,498.5**	**-12,399.5**	**-13,303.0**	**-14,220.6**	**-15,194.8**	**-16,172.3**	**-17,178.6**
64																			
65																			
66		**Change in NOx (ton NOx/yr) - Ambitious**																	
67				**Year**															
68		**End-User Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
69		Industry (Hard-to-Electrify)	Refineries	-3.9	-4.5	-5.0	-5.5	-6.0	-6.4	-6.6	-7.2	-7.5	-7.8	-8.1	-8.4	-8.6	-8.9	-9.1	-9.4
70		Industry (Hard-to-Electrify)	FoodBeverage	-1.3	-1.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.6	-2.8	-2.9	-3.1	-3.3	-3.5	-3.7	-3.8	-4.0
71		Industry (Hard-to-Electrify)	Metals	-0.6	-0.7	-0.8	-0.8	-0.9	-1.0	-1.0	-1.1	-1.2	-1.2	-1.3	-1.4	-1.4	-1.5	-1.6	-1.6
72		Industry (Hard-to-Electrify)	StoneGlassCement	-1.4	-1.6	-1.8	-1.9	-2.1	-2.2	-2.3	-2.5	-2.6	-2.7	-2.7	-2.8	-2.8	-2.9	-3.0	-3.0
73		Industry (Hard-to-Electrify)	Paper	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7
74		Industry (Hard-to-Electrify)	Chemicals	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.5
75		Industry (Hard-to-Electrify)	AeroSpaceDefense	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
76		Power	PeakerBaseload	-0.6	-1.6	-2.8	-4.5	-6.5	-8.9	-11.8	-15.0	-18.7	-22.8	-27.2	-32.4	-38.0	-44.0	-50.5	-57.4
77		Power	Cogeneration	-0.1	-0.3	-0.6	-1.0	-1.5	-2.1	-2.8	-3.6	-4.6	-5.6	-6.7	-8.0	-9.4	-11.0	-12.6	-14.4
78		Mobility	MDV	-356.0	-418.8	-482.4	-546.7	-611.5	-674.9	-728.4	-771.3	-807.6	-836.7	-860.2	-884.5	-908.1	-935.8	-955.3	-976.8
79		Mobility	HDV	-3,860.0	-4,586.1	-5,410.8	-6,335.7	-7,372.4	-8,527.9	-9,604.8	-10,624.6	-11,582.2	-12,492.2	-13,359.4	-14,193.5	-15,000.0	-15,783.2	-16,542.7	-17,286.6
80		Mobility	Bus	-791.5	-867.0	-912.2	-922.3	-911.6	-904.2	-939.1	-997.2	-1,039.3	-1,074.9	-1,102.0	-1,111.9	-1,129.4	-1,177.0	-1,212.1	-1,245.3
81		Mobility	Agriculture	-80.3	-103.5	-126.6	-149.2	-171.3	-192.6	-212.3	-230.0	-246.0	-260.4	-273.5	-285.7	-296.4	-306.5	-315.3	-323.3
82		Mobility	CHC	-16.6	-25.4	-32.7	-39.8	-47.6	-139.7	-230.0	-303.7	-361.0	-405.1	-438.7	-464.2	-483.6	-498.3	-509.3	-517.4
83		Mobility	CHE	-64.5	-84.5	-87.4	-113.9	-130.8	-149.6	-164.2	-172.1	-189.9	-183.8	-203.4	-233.9	-247.1	-263.2	-276.3	-289.7
84		Mobility	Construction & Mining	-381.0	-462.0	-540.4	-626.5	-716.5	-810.7	-847.5	-929.1	-1,006.8	-1,081.4	-1,154.7	-1,224.9	-1,294.1	-1,362.2	-1,428.9	-1,494.2
85		Mobility	GSE	-39.4	-52.1	-65.2	-79.2	-93.8	-108.8	-120.4	-133.6	-145.9	-157.4	-168.1	-175.5	-182.3	-188.5	-194.2	-199.4
86		**Total**	**ALL**	**-5,597.5**	**-6,609.9**	**-7,670.7**	**-8,829.5**	**-10,075.2**	**-11,531.9**	**-12,874.6**	**-14,194.4**	**-15,416.9**	**-16,535.7**	**-17,610.1**	**-18,631.4**	**-19,605.9**	**-20,587.8**	**-21,515.8**	**-22,423.7**
87		Infrastructure	Storage (Maximum)	54.7	64.3	74.8	86.5	99.3	113.4	127.9	143.8	159.7	176.1	193.3	211.0	229.5	248.9	269.1	290.2
88		Infrastructure	Transmission (Maximum	163.3	191.9	223.3	258.1	296.4	338.2	381.7	429.1	476.4	525.4	576.9	629.5	684.7	742.7	803.0	865.7
89		Infrastructure	Production (Maximum)	139.5	163.8	190.7	220.4	253.1	288.8	326.0	366.4	406.8	448.7	492.6	537.5	584.6	634.2	685.6	739.3
90		**Infrastructure**	**ALL**	**357.6**	**420.0**	**488.9**	**564.9**	**648.8**	**740.4**	**835.6**	**939.2**	**1,042.8**	**1,150.2**	**1,262.8**	**1,377.9**	**1,498.7**	**1,625.8**	**1,757.7**	**1,895.2**
91		**TOTAL Project**	**End-User & Infrastructure**	**-5,240.0**	**-6,189.9**	**-7,181.8**	**-8,264.5**	**-9,426.4**	**-10,791.5**	**-12,039.0**	**-13,255.2**	**-14,374.1**	**-15,385.4**	**-16,347.3**	**-17,253.5**	**-18,107.1**	**-18,962.0**	**-19,758.1**	**-20,528.5**

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
92																			
93																			
94		**NOx Summary by Sector**																	
95				**Year**															
96		**End-User Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
101		PRJ NOx Emissions - Conservative	Industry (Hard-to-Electrify)	1,046.6	1,052.3	1,048.5	1,044.0	1,046.6	1,042.0	1,020.8	1,041.9	1,034.0	1,026.0	1,021.4	1,014.5	1,010.9	1,012.3	1,011.6	1,010.4
102		PRJ NOx Emissions - Conservative	Power	1,364.0	1,363.7	1,363.3	1,362.8	1,362.1	1,361.3	1,360.3	1,359.3	1,358.0	1,356.7	1,355.2	1,353.5	1,351.7	1,349.7	1,347.5	1,345.2
103		PRJ NOx Emissions - Conservative	Mobility	44,214.0	42,096.6	39,831.3	37,698.8	35,529.7	33,249.7	30,937.7	29,140.1	27,523.1	26,040.8	24,718.7	23,428.1	22,134.0	20,865.3	19,557.4	18,239.4
104		PRJ NOx Emissions - Conservative	Total	46,624.6	44,512.6	42,243.1	40,105.6	37,938.4	35,653.0	33,318.9	31,541.3	29,915.2	28,423.5	27,095.3	25,796.1	24,496.6	23,227.3	21,916.5	20,595.0
105		PRJ NOx Emissions - Moderate	Industry (Hard-to-Electrify)	1,045.7	1,051.2	1,047.3	1,042.6	1,045.0	1,040.2	1,018.8	1,039.7	1,031.7	1,023.5	1,018.7	1,011.7	1,007.8	1,009.1	1,008.2	1,006.7
106		PRJ NOx Emissions - Moderate	Power	1,363.7	1,363.1	1,362.1	1,360.8	1,359.3	1,357.4	1,355.2	1,352.7	1,349.9	1,346.8	1,343.3	1,339.4	1,335.1	1,330.4	1,325.4	1,320.1
107		PRJ NOx Emissions - Moderate	Mobility	42,465.8	40,124.2	37,653.6	35,328.2	32,977.2	30,505.3	28,017.5	26,045.5	24,268.2	22,642.2	21,183.2	19,811.4	18,494.4	17,251.3	16,022.7	14,830.8
108		PRJ NOx Emissions - Moderate	Total	44,875.3	42,538.4	40,063.0	37,731.7	35,381.5	32,903.0	30,391.6	28,437.9	26,649.8	25,012.5	23,545.2	22,162.5	20,837.2	19,590.8	18,356.2	17,157.6
109		PRJ NOx Emissions - Ambitious	Industry (Hard-to-Electrify)	1,041.9	1,046.7	1,042.3	1,037.1	1,039.0	1,033.8	1,012.2	1,032.4	1,024.1	1,015.7	1,010.6	1,003.3	999.2	1,000.1	999.0	997.3
110		PRJ NOx Emissions - Ambitious	Power	1,363.5	1,362.3	1,360.8	1,358.7	1,356.2	1,353.2	1,349.6	1,345.5	1,341.0	1,335.9	1,330.3	1,323.8	1,316.8	1,309.3	1,301.1	1,292.5
111		PRJ NOx Emissions - Ambitious	Mobility	39,742.1	36,988.5	34,192.2	31,615.0	29,087.6	26,486.6	23,882.0	21,782.6	19,886.4	18,154.5	16,590.1	15,175.3	13,880.7	12,714.2	11,624.0	10,624.1
112		PRJ NOx Emissions - Ambitious	Total	42,147.4	39,397.6	36,595.3	34,010.8	31,482.8	28,873.6	26,243.8	24,160.6	22,251.5	20,506.0	18,930.9	17,502.4	16,196.7	15,023.6	13,924.2	12,913.9
113		Change in NOx - Conservative	Industry (Hard-to-Electrify)	-2.7	-3.1	-3.4	-3.7	-4.0	-4.3	-4.5	-4.8	-5.0	-5.2	-5.4	-5.6	-5.8	-5.9	-6.1	-6.2
114		Change in NOx - Conservative	Power	-0.2	-0.5	-0.9	-1.5	-2.1	-2.9	-3.9	-4.9	-6.2	-7.5	-9.0	-10.7	-12.5	-14.5	-16.7	-19.0
115		Change in NOx - Conservative	Mobility	-1,117.4	-1,491.3	-2,018.6	-2,729.5	-3,613.4	-4,745.3	-5,791.2	-6,804.0	-7,742.1	-8,605.5	-9,431.4	-10,321.4	-11,287.7	-12,363.7	-13,500.7	-14,717.4
116		Change in NOx - Conservative	Total	-1,120.3	-1,494.8	-2,022.9	-2,734.7	-3,619.5	-4,752.5	-5,799.6	-6,813.7	-7,753.2	-8,618.2	-9,445.7	-10,337.7	-11,306.0	-12,384.1	-13,523.5	-14,742.6
117		Change in NOx - Moderate	Industry (Hard-to-Electrify)	-3.5	-4.1	-4.7	-5.1	-5.6	-6.1	-6.5	-7.0	-7.3	-7.7	-8.0	-8.4	-8.8	-9.2	-9.6	-9.9
118		Change in NOx - Moderate	Power	-0.5	-1.1	-2.1	-3.4	-4.9	-6.8	-9.0	-11.5	-14.3	-17.4	-20.9	-24.8	-29.1	-33.8	-38.8	-44.1
119		Change in NOx - Moderate	Mobility	-2,865.6	-3,463.7	-4,196.2	-5,100.1	-6,165.9	-7,489.7	-8,711.4	-9,898.6	-10,997.0	-12,004.1	-12,966.9	-13,938.0	-14,927.4	-15,977.7	-17,035.4	-18,126.0
120		Change in NOx - Moderate	Total	-2,869.6	-3,469.0	-4,203.0	-5,108.6	-6,176.5	-7,502.6	-8,726.8	-9,917.1	-11,018.6	-12,029.2	-12,995.8	-13,971.3	-14,965.4	-16,020.7	-17,083.7	-18,180.0
121		Change in NOx - Ambitious	Industry (Hard-to-Electrify)	-7.4	-8.6	-9.7	-10.7	-11.6	-12.5	-13.1	-14.2	-14.9	-15.5	-16.2	-16.8	-17.4	-18.1	-18.7	-19.3
122		Change in NOx - Ambitious	Power	-0.7	-1.9	-3.4	-5.5	-8.0	-11.0	-14.6	-18.7	-23.3	-28.3	-33.9	-40.4	-47.4	-55.0	-63.1	-71.7
123		Change in NOx - Ambitious	Mobility	-5,589.4	-6,599.4	-7,657.6	-8,813.3	-10,055.5	-11,508.4	-12,846.9	-14,161.5	-15,378.8	-16,491.8	-17,559.9	-18,574.2	-19,541.1	-20,514.8	-21,434.0	-22,332.6
124		Change in NOx - Ambitious	Total	-5,597.5	-6,609.9	-7,670.7	-8,829.5	-10,075.2	-11,531.9	-12,874.6	-14,194.4	-15,416.9	-16,535.7	-17,610.1	-18,631.4	-19,605.9	-20,587.8	-21,515.8	-22,423.7
125																			
126																			
127		**NOx Summary**																	
128				**Year**															
129		**End-User Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
130		Change in NOx - Conservative	Total	-1,120.3	-1,494.8	-2,022.9	-2,734.7	-3,619.5	-4,752.5	-5,799.6	-6,813.7	-7,753.2	-8,618.2	-9,445.7	-10,337.7	-11,306.0	-12,384.1	-13,523.5	-14,742.6
131		Change in NOx - Moderate	Total	-2,869.6	-3,469.0	-4,203.0	-5,108.6	-6,176.5	-7,502.6	-8,726.8	-9,917.1	-11,018.6	-12,029.2	-12,995.8	-13,971.3	-14,965.4	-16,020.7	-17,083.7	-18,180.0
132		Change in NOx - Ambitious	Total	-5,597.5	-6,609.9	-7,670.7	-8,829.5	-10,075.2	-11,531.9	-12,874.6	-14,194.4	-15,416.9	-16,535.7	-17,610.1	-18,631.4	-19,605.9	-20,587.8	-21,515.8	-22,423.7
133																			
134																			
135		**NOx Summary**																	
136				**Year**															
137		**End-User Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
138		Change in NOx - Conservative	Industry (Hard-to-Electrify)	-2.70	-3.07	-3.42	-3.73	-4.03	-4.29	-4.54	-4.77	-4.97	-5.16	-5.38	-5.58	-5.77	-5.94	-6.09	-6.24
139		Change in NOx - Conservative	Power	-0.20	-0.49	-0.91	-1.45	-2.12	-2.91	-3.86	-4.94	-6.15	-7.50	-8.99	-10.69	-12.55	-14.55	-16.70	-18.99
140		Change in NOx - Conservative	Mobility	-1117.44	-1491.28	-2018.55	-2729.51	-3613.40	-4745.33	-5791.17	-6804.00	-7742.10	-8605.51	-9431.38	-10321.39	-11287.73	-12363.66	-13500.67	-14717.36
141		Change in NOx - Moderate	Industry (Hard-to-Electrify)	-3.54	-4.13	-4.66	-5.13	-5.64	-6.09	-6.48	-6.96	-7.34	-7.66	-8.05	-8.45	-8.83	-9.20	-9.57	-9.89
142		Change in NOx - Moderate	Power	-0.46	-1.14	-2.12	-3.38	-4.92	-6.76	-8.96	-11.48	-14.30	-17.44	-20.88	-24.84	-29.15	-33.80	-38.79	-44.13
143		Change in NOx - Moderate	Mobility	-2865.65	-3463.73	-4196.23	-5100.10	-6165.89	-7489.72	-8711.37	-9898.64	-10997.01	-12004.10	-12966.88	-13938.01	-14927.40	-15977.67	-17035.38	-18125.96
144		Change in NOx - Ambitious	Industry (Hard-to-Electrify)	-7.41	-8.61	-9.67	-10.65	-11.65	-12.51	-13.11	-14.20	-14.86	-15.48	-16.19	-16.80	-17.43	-18.11	-18.72	-19.28
145		Change in NOx - Ambitious	Power	-0.75	-1.86	-3.44	-5.49	-8.01	-10.99	-14.57	-18.66	-23.25	-28.35	-33.95	-40.39	-47.39	-54.95	-63.07	-71.75
146		Change in NOx - Ambitious	Mobility	-5589.38	-6599.40	-7657.59	-8813.33	-10055.53	-11508.42	-12846.93	-14161.54	-15378.81	-16491.85	-17559.95	-18574.16	-19541.06	-20514.76	-21434.03	-22332.65
147																			
148																			

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
149		**(END USERS) NOx Summary by Sector**																	
150																			
151		**Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
152		Change in NOx - Conservative	Power Generation	-0.2	-0.5	-0.9	-1.5	-2.1	-2.9	-3.9	-4.9	-6.2	-7.5	-9.0	-10.7	-12.5	-14.5	-16.7	-19.0
153		Change in NOx - Conservative	Industrial	-2.7	-3.1	-3.4	-3.7	-4.0	-4.3	-4.5	-4.8	-5.0	-5.2	-5.4	-5.6	-5.8	-5.9	-6.1	-6.2
154		Change in NOx - Conservative	Mobility	-1,117.4	-1,491.3	-2,018.6	-2,729.5	-3,613.4	-4,745.3	-5,791.2	-6,804.0	-7,742.1	-8,605.5	-9,431.4	-10,321.4	-11,287.7	-12,363.7	-13,500.7	-14,717.4
155		Change in NOx - Moderate	Power Generation																
156		Change in NOx - Moderate	Industrial																
157		Change in NOx - Moderate	Mobility																
158		Change in NOx - Ambitious	Power Generation	-0.7	-1.9	-3.4	-5.5	-8.0	-11.0	-14.6	-18.7	-23.3	-28.3	-33.9	-40.4	-47.4	-55.0	-63.1	-71.7
159		Change in NOx - Ambitious	Industrial	-7.4	-8.6	-9.7	-10.7	-11.6	-12.5	-13.1	-14.2	-14.9	-15.5	-16.2	-16.8	-17.4	-18.1	-18.7	-19.3
160		Change in NOx - Ambitious	Mobility	-5,589.4	-6,599.4	-7,657.6	-8,813.3	-10,055.5	-11,508.4	-12,846.9	-14,161.5	-15,378.8	-16,491.8	-17,559.9	-18,574.2	-19,541.1	-20,514.8	-21,434.0	-22,332.6
161		% Attributable to Mobility	Mobility	99.9%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.7%	99.7%	99.7%	99.7%	99.6%	99.6%	99.6%

	Y	Z	AA	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
1																			
7		**Angeles Link Throughput Scenario NOx Summary**																	
8		(results begin on row 30, and are aligned on rows with the corresponding Demand Scenario. Baseline is not relevant for Angeles Link specific scenarios.)																	
9																			
10		**AL Change in NOx (ton NOx/yr) - Low**																	
11				**Year**															
12		**Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
13		Industry (Hard-to-Electrify)	Refineries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14		Industry (Hard-to-Electrify)	FoodBeverage	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4
15		Industry (Hard-to-Electrify)	Metals	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
16		Industry (Hard-to-Electrify)	StoneGlassCement	-0.4	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.8
17		Industry (Hard-to-Electrify)	Paper	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
18		Industry (Hard-to-Electrify)	Chemicals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1
19		Industry (Hard-to-Electrify)	AeroSpaceDefense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20		Power	PeakerBaseload	0.0	-0.1	-0.2	-0.3	-0.5	-0.6	-0.8	-1.1	-1.3	-1.6	-1.9	-2.3	-2.7	-3.1	-3.6	-4.1
21		Power	Cogeneration	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0
22		Mobility	MDV	-24.7	-32.9	-43.3	-55.9	-70.8	-87.8	-103.2	-116.8	-129.2	-140.2	-150.2	-159.8	-168.8	-178.1	-185.4	-192.8
23		Mobility	HDV	-169.4	-226.0	-319.5	-452.1	-626.6	-845.7	-1,050.7	-1,243.2	-1,423.2	-1,593.0	-1,753.5	-1,937.0	-2,145.9	-2,379.8	-2,636.9	-2,917.4
24		Mobility	Bus	-55.6	-69.9	-84.1	-96.6	-107.7	-119.9	-138.2	-158.5	-175.2	-189.6	-201.5	-209.3	-217.7	-231.5	-242.4	-252.5
25		Mobility	Agriculture	-8.7	-11.6	-14.3	-17.0	-19.5	-21.9	-24.9	-28.4	-32.6	-37.2	-42.2	-46.8	-50.9	-54.7	-58.1	-61.1
26		Mobility	CHC	-3.5	-5.2	-6.4	-7.5	-8.8	-24.0	-38.9	-51.1	-60.5	-67.8	-73.3	-78.6	-83.9	-89.3	-94.7	-100.1
27		Mobility	CHE	-10.3	-14.0	-14.2	-17.7	-19.3	-20.8	-22.5	-24.1	-27.8	-28.5	-33.7	-40.8	-45.0	-49.5	-53.3	-57.1
28		Mobility	Construction & Mining	-24.1	-35.6	-52.7	-75.9	-104.1	-136.8	-156.1	-180.8	-203.2	-224.3	-245.1	-264.2	-282.1	-298.7	-314.5	-329.5
29		Mobility	GSE	-3.7	-5.3	-7.4	-10.1	-13.3	-17.2	-20.3	-23.7	-26.9	-29.8	-32.5	-34.5	-36.3	-37.9	-39.4	-40.8
30		**Total End-User**	**ALL End-User**	**-300.8**	**-401.3**	**-543.1**	**-734.2**	**-971.8**	**-1,275.9**	**-1,557.0**	**-1,829.3**	**-2,081.5**	**-2,313.8**	**-2,535.9**	**-2,775.4**	**-3,035.4**	**-3,324.8**	**-3,630.7**	**-3,958.0**
31		Infrastructure	Storage (Maximum)	1.7	2.3	3.1	4.1	5.4	6.9	8.5	10.1	11.7	13.2	14.9	16.6	18.6	20.7	22.9	25.3
32		Infrastructure	Transmission (Maximum	5.2	6.9	9.3	12.3	16.1	20.6	25.4	30.1	34.8	39.5	44.3	49.7	55.4	61.7	68.3	75.4
33		Infrastructure	Production (Maximum)	4.4	5.9	7.9	10.5	13.7	17.6	21.7	25.7	29.7	33.8	37.9	42.4	47.3	52.6	58.3	64.4
34		**Infrastructure**	**ALL**	11.4	15.2	20.4	27.0	35.2	45.2	55.5	65.9	76.2	86.5	97.0	108.7	121.3	135.0	149.5	165.0
35		**TOTAL Project**	**End-User & Infrastructure**	-289.4	-386.2	-522.7	-707.2	-936.5	-1,230.7	-1,501.5	-1,763.4	-2,005.4	-2,227.2	-2,438.9	-2,666.7	-2,914.0	-3,189.9	-3,481.2	-3,793.0
37																			

	Y	Z	AA	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
38		**AL Change in NOx (ton NOx/yr) - Medium**																	
39				**Year**															
40		**Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
41		Industry (Hard-to-Electrify)	Refineries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42		Industry (Hard-to-Electrify)	FoodBeverage	-0.4	-0.5	-0.5	-0.6	-0.7	-0.7	-0.8	-0.8	-0.9	-0.9	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2
43		Industry (Hard-to-Electrify)	Metals	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5
44		Industry (Hard-to-Electrify)	StoneGlassCement	-0.4	-0.5	-0.6	-0.6	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9
45		Industry (Hard-to-Electrify)	Paper	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
46		Industry (Hard-to-Electrify)	Chemicals	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
47		Industry (Hard-to-Electrify)	AeroSpaceDefense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48		Power	PeakerBaseload	-0.1	-0.3	-0.5	-0.9	-1.2	-1.7	-2.3	-2.9	-3.6	-4.4	-5.2	-6.2	-7.3	-8.4	-9.7	-11.0
49		Power	Cogeneration	0.0	-0.1	-0.1	-0.2	-0.3	-0.4	-0.5	-0.7	-0.9	-1.1	-1.3	-1.5	-1.8	-2.1	-2.4	-2.8
50		Mobility	MDV	-59.2	-71.6	-86.2	-102.9	-121.9	-142.7	-161.0	-176.6	-190.4	-202.2	-212.5	-222.6	-232.0	-242.3	-250.1	-258.2
51		Mobility	HDV	-589.3	-712.5	-878.8	-1,090.1	-1,350.3	-1,662.3	-1,953.9	-2,228.4	-2,485.5	-2,728.6	-2,959.1	-3,198.9	-3,450.6	-3,714.4	-3,989.3	-4,276.5
52		Mobility	Bus	-133.1	-150.5	-165.1	-175.2	-182.6	-191.4	-209.7	-232.1	-249.9	-265.2	-277.5	-284.8	-293.3	-309.4	-321.8	-333.4
53		Mobility	Agriculture	-16.4	-21.4	-26.4	-31.2	-36.0	-40.6	-45.4	-50.2	-55.2	-60.2	-65.3	-70.0	-74.1	-78.0	-81.4	-84.5
54		Mobility	CHC	-5.1	-7.5	-9.3	-11.0	-12.9	-35.5	-57.7	-75.9	-90.0	-100.8	-109.0	-116.0	-122.1	-127.5	-132.5	-137.1
55		Mobility	CHE	-14.0	-18.7	-19.4	-25.2	-28.7	-32.6	-36.0	-38.4	-43.4	-43.2	-49.4	-58.3	-62.9	-68.1	-72.4	-76.8
56		Mobility	Construction & Mining	-67.9	-86.4	-108.5	-135.6	-166.5	-201.1	-218.9	-246.4	-271.8	-295.8	-319.5	-341.6	-362.8	-383.1	-402.6	-421.4
57		Mobility	GSE	-6.9	-9.5	-12.4	-16.0	-20.1	-24.8	-28.6	-32.7	-36.6	-40.1	-43.5	-45.8	-48.0	-50.0	-51.8	-53.5
58		**Total End-User**	**ALL End-User**	**-893.1**	**-1,079.7**	**-1,308.1**	**-1,590.0**	**-1,922.3**	**-2,335.0**	**-2,716.1**	**-3,086.5**	**-3,429.4**	**-3,743.9**	**-4,044.7**	**-4,348.3**	**-4,657.7**	**-4,986.1**	**-5,317.0**	**-5,658.2**
59		Infrastructure	Storage (Maximum)	4.3	5.5	7.1	8.9	11.1	13.7	16.5	19.4	22.3	25.3	28.4	31.8	35.5	39.4	43.4	47.7
60		Infrastructure	Transmission (Maximum	13.0	16.5	21.1	26.6	33.2	41.0	49.2	57.8	66.5	75.5	84.8	95.0	105.9	117.4	129.6	142.4
61		Infrastructure	Production (Maximum)	11.1	14.1	18.0	22.7	28.3	35.0	42.0	49.3	56.8	64.4	72.4	81.1	90.4	100.3	110.7	121.6
62		**Infrastructure**	**ALL**	28.4	36.2	46.1	58.2	72.7	89.7	107.7	126.5	145.5	165.2	185.6	208.0	231.8	257.0	283.7	311.7
63		**TOTAL Project**	**End-User & Infrastructure**	-864.7	-1,043.4	-1,262.0	-1,531.8	-1,849.7	-2,245.4	-2,608.3	-2,960.1	-3,283.8	-3,578.7	-3,859.1	-4,140.3	-4,425.9	-4,729.1	-5,033.3	-5,346.5
64																			
65																			
66		**AL Change in NOx (ton NOx/yr) - High**																	
67				**Year**															
68		**Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
69		Industry (Hard-to-Electrify)	Refineries	-1.0	-1.1	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.1	-2.2	-2.3	-2.3	-2.4
70		Industry (Hard-to-Electrify)	FoodBeverage	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-0.9	-1.0	-1.0
71		Industry (Hard-to-Electrify)	Metals	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4
72		Industry (Hard-to-Electrify)	StoneGlassCement	-0.3	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8
73		Industry (Hard-to-Electrify)	Paper	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
74		Industry (Hard-to-Electrify)	Chemicals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
75		Industry (Hard-to-Electrify)	AeroSpaceDefense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76		Power	PeakerBaseload	-0.2	-0.4	-0.7	-1.1	-1.6	-2.3	-3.0	-3.8	-4.7	-5.8	-6.9	-8.2	-9.6	-11.2	-12.8	-14.5
77		Power	Cogeneration	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.7	-0.9	-1.2	-1.4	-1.7	-2.0	-2.4	-2.8	-3.2	-3.6
78		Mobility	MDV	-90.3	-106.2	-122.3	-138.6	-155.1	-171.2	-184.7	-195.6	-204.8	-212.2	-218.1	-224.3	-230.3	-237.3	-242.3	-247.7
79		Mobility	HDV	-979.0	-1,163.1	-1,372.2	-1,606.8	-1,869.7	-2,162.8	-2,435.9	-2,694.5	-2,937.4	-3,168.2	-3,388.1	-3,599.7	-3,804.2	-4,002.8	-4,195.4	-4,384.1
80		Mobility	Bus	-200.7	-219.9	-231.4	-233.9	-231.2	-229.3	-238.2	-252.9	-263.6	-272.6	-279.5	-282.0	-286.4	-298.5	-307.4	-315.8
81		Mobility	Agriculture	-20.4	-26.3	-32.1	-37.9	-43.4	-48.8	-53.9	-58.3	-62.4	-66.0	-69.4	-72.5	-75.2	-77.7	-80.0	-82.0
82		Mobility	CHC	-4.2	-6.4	-8.3	-10.1	-12.1	-35.4	-58.3	-77.0	-91.6	-102.7	-111.3	-117.7	-122.6	-126.4	-129.2	-131.2
83		Mobility	CHE	-16.4	-21.4	-22.2	-28.9	-33.2	-37.9	-41.6	-43.6	-48.2	-46.6	-51.6	-59.3	-62.7	-66.8	-70.1	-73.5
84		Mobility	Construction & Mining	-96.6	-117.2	-137.1	-158.9	-181.7	-205.6	-214.9	-235.6	-255.3	-274.3	-292.8	-310.7	-328.2	-345.5	-362.4	-378.9
85		Mobility	GSE	-10.0	-13.2	-16.5	-20.1	-23.8	-27.6	-30.5	-33.9	-37.0	-39.9	-42.6	-44.5	-46.2	-47.8	-49.3	-50.6
86		**Total End-User**	**ALL End-User**	**-1,419.6**	**-1,676.4**	**-1,945.4**	**-2,239.3**	**-2,555.2**	**-2,924.7**	**-3,265.2**	**-3,599.9**	**-3,909.9**	**-4,193.7**	**-4,466.2**	**-4,725.2**	**-4,972.3**	**-5,221.4**	**-5,456.7**	**-5,686.9**
87		Infrastructure	Storage (Maximum)	13.9	16.3	19.0	21.9	25.2	28.7	32.4	36.5	40.5	44.7	49.0	53.5	58.2	63.1	68.3	73.6
88		Infrastructure	Transmission (Maximum	41.4	48.7	56.6	65.5	75.2	85.8	96.8	108.8	120.8	133.3	146.3	159.6	173.6	188.4	203.6	219.6
89		Infrastructure	Production (Maximum)	35.4	41.6	48.4	55.9	64.2	73.2	82.7	92.9	103.2	113.8	124.9	136.3	148.3	160.8	173.9	187.5
90		**Infrastructure**	**ALL**	90.7	106.5	124.0	143.3	164.5	187.8	211.9	238.2	264.5	291.7	320.3	349.5	380.1	412.3	445.8	480.6
91		**TOTAL Project**	**End-User & Infrastructure**	-1,328.9	-1,569.8	-1,821.4	-2,096.0	-2,390.7	-2,736.9	-3,053.2	-3,361.7	-3,645.5	-3,902.0	-4,145.9	-4,375.7	-4,592.2	-4,809.0	-5,010.9	-5,206.3

	Y	Z	AA	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
92																			
93																			
135		**AL NOx Summary by Sector**																	
136																			
137		**Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
138		Change in NOx - Low	Infrastructure	11.4	15.2	20.4	27.0	35.2	45.2	55.5	65.9	76.2	86.5	97.0	108.7	121.3	135.0	149.5	165.0
139		Change in NOx - Low	Industry (Hard-to-Electrify)	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-1.2	-1.3	-1.3	-1.4	-1.4	-1.5	-1.5	-1.6	-1.6	-1.7
140		Change in NOx - Low	Power	-0.1	-0.1	-0.2	-0.4	-0.6	-0.8	-1.0	-1.3	-1.7	-2.0	-2.4	-2.9	-3.4	-3.9	-4.5	-5.1
141		Change in NOx - Low	Mobility	-300.0	-400.4	-541.9	-732.8	-970.1	-1,274.0	-1,554.8	-1,826.7	-2,078.6	-2,310.4	-2,532.1	-2,771.0	-3,030.5	-3,319.3	-3,624.6	-3,951.2
142		Change in NOx - Low	Total	-300.8	-401.3	-543.1	-734.2	-971.8	-1,275.9	-1,557.0	-1,829.3	-2,081.5	-2,313.8	-2,535.9	-2,775.4	-3,035.4	-3,324.8	-3,630.7	-3,958.0
143		Change in NOx - Medium	Infrastructure	28.4	36.2	46.1	58.2	72.7	89.7	107.7	126.5	145.5	165.2	185.6	208.0	231.8	257.0	283.7	311.7
144		Change in NOx - Medium	Industry (Hard-to-Electrify)	-1.1	-1.3	-1.5	-1.6	-1.8	-1.9	-2.0	-2.2	-2.3	-2.4	-2.5	-2.6	-2.7	-2.9	-3.0	-3.1
145		Change in NOx - Medium	Power	-0.1	-0.4	-0.7	-1.1	-1.5	-2.1	-2.8	-3.6	-4.5	-5.4	-6.5	-7.7	-9.1	-10.5	-12.1	-13.7
146		Change in NOx - Medium	Mobility	-891.9	-1,078.0	-1,306.0	-1,587.3	-1,919.0	-2,331.0	-2,711.3	-3,080.8	-3,422.6	-3,736.1	-4,035.7	-4,338.0	-4,645.9	-4,972.8	-5,302.0	-5,641.4
147		Change in NOx - Medium	Total	-893.1	-1,079.7	-1,308.1	-1,590.0	-1,922.3	-2,335.0	-2,716.1	-3,086.5	-3,429.4	-3,743.9	-4,044.7	-4,348.3	-4,657.7	-4,986.1	-5,317.0	-5,658.2
148		Change in NOx - High	Infrastructure	90.7	106.5	124.0	143.3	164.5	187.8	211.9	238.2	264.5	291.7	320.3	349.5	380.1	412.3	445.8	480.6
149		Change in NOx - High	Industry (Hard-to-Electrify)	-1.9	-2.2	-2.5	-2.7	-3.0	-3.2	-3.3	-3.6	-3.8	-3.9	-4.1	-4.3	-4.4	-4.6	-4.7	-4.9
150		Change in NOx - High	Power	-0.2	-0.5	-0.9	-1.4	-2.0	-2.8	-3.7	-4.7	-5.9	-7.2	-8.6	-10.2	-12.0	-13.9	-16.0	-18.2
151		Change in NOx - High	Mobility	-1,417.5	-1,673.7	-1,942.1	-2,235.2	-2,550.2	-2,918.7	-3,258.2	-3,591.6	-3,900.3	-4,182.6	-4,453.4	-4,710.7	-4,955.9	-5,202.8	-5,436.0	-5,663.9
152		Change in NOx - High	Total	-1,419.6	-1,676.4	-1,945.4	-2,239.3	-2,555.2	-2,924.7	-3,265.2	-3,599.9	-3,909.9	-4,193.7	-4,466.2	-4,725.2	-4,972.3	-5,221.4	-5,456.7	-5,686.9
153																			
154																			
155		**(END USERS) Angeles Link NOx Summary by Sector**																	
156																			
157		**Segment**	**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
158		Change in NOx - Low	ALL	-300.8	-401.3	-543.1	-734.2	-971.8	-1,275.9	-1,557.0	-1,829.3	-2,081.5	-2,313.8	-2,535.9	-2,775.4	-3,035.4	-3,324.8	-3,630.7	-3,958.0
159		Change in NOx - Medium	ALL	-893.1	-1,079.7	-1,308.1	-1,590.0	-1,922.3	-2,335.0	-2,716.1	-3,086.5	-3,429.4	-3,743.9	-4,044.7	-4,348.3	-4,657.7	-4,986.1	-5,317.0	-5,658.2
160		Change in NOx - High	ALL	-1,419.6	-1,676.4	-1,945.4	-2,239.3	-2,555.2	-2,924.7	-3,265.2	-3,599.9	-3,909.9	-4,193.7	-4,466.2	-4,725.2	-4,972.3	-5,221.4	-5,456.7	-5,686.9

Tab Contents

Summary of production NOx emissions results and minor calculations to develop results. The Demand Scenario results include emissions from hydrogen produced, stored, and transmitted by third-parties, in addition that hydrogen associated with Angeles Link. The Angeles Link results are specific to the hydrogen produced, stored, and transmitted within the Angeles Link system.

Hydrogen Demand Scenario - Production - NOx

Note: raw data was copied from "ALP1_NOx_Prod_1_Calcs_SoCalGas.xlsx", tab "2. Prod_NOx_Summary".

Total NOx Emissions (ton/year) - Conservative Demand Scenario

		Year															
Ratio	**% SMR**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Min -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min -	33% SMR	3.53	4.70	6.31	8.37	10.91	14.00	17.21	20.41	23.60	26.81	30.07	33.68	37.59	41.82	46.33	51.14
Max -	33% SMR	5.51	7.34	9.85	13.07	17.04	21.86	26.87	31.87	36.86	41.86	46.95	52.59	58.71	65.30	72.35	79.85
Min -	100% SMR	10.59	14.11	18.94	25.13	32.78	42.05	51.68	61.29	70.88	80.51	90.30	101.14	112.90	125.57	139.13	153.56
Max -	100% SMR	16.53	22.03	29.57	39.25	51.18	65.66	80.71	95.71	110.69	125.72	141.00	157.94	176.29	196.08	217.26	239.80

Total NOx Emissions (ton/year) - Moderate Demand Scenario

		Year															
Ratio	**% SMR**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Min -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min -	33% SMR	7.59	9.68	12.33	15.55	19.42	23.97	28.79	33.80	38.90	44.15	49.60	55.59	61.95	68.70	75.82	83.30
Max -	33% SMR	11.86	15.11	19.25	24.28	30.32	37.42	44.96	52.78	60.74	68.94	77.46	86.81	96.74	107.27	118.39	130.08
Min -	100% SMR	22.80	29.07	37.01	46.69	58.31	71.97	86.46	101.50	116.82	132.57	148.96	166.95	186.05	206.30	227.68	250.16
Max -	100% SMR	35.61	45.39	57.80	72.91	91.06	112.39	135.02	158.49	182.41	207.01	232.60	260.70	290.52	322.14	355.53	390.63

Total NOx Emissions (ton/year) - Ambitious Demand Scenario

		Year															
Ratio	**% SMR**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Min -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min -	33% SMR	29.74	34.94	40.67	46.99	53.97	61.59	69.51	78.13	86.75	95.68	105.04	114.62	124.67	135.24	146.22	157.65
Max -	33% SMR	46.44	54.56	63.50	73.38	84.27	96.17	108.54	122.00	135.46	149.41	164.03	178.98	194.68	211.18	228.32	246.17
Min -	100% SMR	89.32	104.92	122.12	141.12	162.07	184.95	208.74	234.62	260.51	287.33	315.44	344.20	374.39	406.13	439.09	473.42
Max -	100% SMR	139.47	163.84	190.70	220.37	253.08	288.81	325.96	366.37	406.79	448.68	492.58	537.49	584.63	634.18	685.65	739.26

Angeles Link Throughput Scenario - Production - NOx

Total NOx Emissions (ton/year) - Low Throughput Scenario

		Year															
Ratio	**% SMR**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Min -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min -	33% SMR	0.95	1.26	1.69	2.25	2.93	3.76	4.62	5.48	6.34	7.20	8.07	9.04	10.09	11.23	12.44	13.73
Max -	33% SMR	1.48	1.97	2.64	3.51	4.58	5.87	7.22	8.56	9.90	11.24	12.61	14.12	15.76	17.53	19.42	21.44
Min -	100% SMR	2.84	3.79	5.08	6.75	8.80	11.29	13.88	16.46	19.03	21.61	24.24	27.15	30.31	33.71	37.35	41.23
Max -	100% SMR	4.44	5.91	7.94	10.54	13.74	17.63	21.67	25.70	29.72	33.75	37.85	42.40	47.33	52.64	58.33	64.38

Total NOx Emissions (ton/year) - Medium Throughput Scenario

		Year															
Ratio	**% SMR**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Min -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min -	33% SMR	2.36	3.01	3.84	4.84	6.04	7.46	8.96	10.52	12.11	13.74	15.44	17.30	19.28	21.38	23.60	25.93
Max -	33% SMR	3.69	4.70	5.99	7.56	9.44	11.65	13.99	16.43	18.91	21.45	24.11	27.02	30.11	33.39	36.85	40.49
Min -	100% SMR	7.10	9.05	11.52	14.53	18.15	22.40	26.91	31.59	36.36	41.26	46.36	51.96	57.90	64.21	70.86	77.86
Max -	100% SMR	11.08	14.13	17.99	22.69	28.34	34.98	42.02	49.33	56.77	64.43	72.39	81.14	90.42	100.26	110.65	121.58

Total NOx Emissions (ton/year) - High Throughput Scenario

		Year															
Ratio	**% SMR**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Min -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max -	0% SMR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min -	33% SMR	7.54	8.86	10.31	11.92	13.69	15.62	17.63	19.81	22.00	24.27	26.64	29.07	31.62	34.30	37.08	39.98
Max -	33% SMR	11.78	13.84	16.11	18.61	21.37	24.39	27.53	30.94	34.35	37.89	41.60	45.39	49.37	53.56	57.91	62.43
Min -	100% SMR	22.65	26.61	30.97	35.79	41.10	46.91	52.94	59.50	66.07	72.87	80.00	87.29	94.95	103.00	111.36	120.07
Max -	100% SMR	35.37	41.55	48.36	55.89	64.18	73.25	82.67	92.92	103.17	113.79	124.92	136.31	148.27	160.84	173.89	187.49

Tab Contents

Summary of infrastructure NOx emissions results and minor calculations to develop results.The Demand Scenario results include emissions from hydrogen produced, stored, and transmitted by third-parties, in addition that hydrogen associated with Angeles Link. The Angeles Link results are specific to the hydrogen produced, stored, and transmitted within the Angeles Link system.

This tab includes the acronym PRJ. This refers to the project (PRJ) scenarios used in the calculation process (particularly for stationary sources). The PRJ scenario encompasses emissions for a sector or subsector including hydrogen adoption. Since infrastructure would only be present in the PRJ scenario, and therefore emissions would only occur in the PRJ scenario. The key findings reported in this study were change in emissions (due to hydrogen adoption either at a market level or as supplied by Angeles Link). While PRJ scenario information was used to develop certain results, this information is secondary to the core results of this study.

The timeframe of this study was 2030-2045, however this tab also contains data from 2025-2029 which is hidden. These results were calculated using data from the demand study which was available for all end-user

Hydrogen Demand Scenario - Storage - NOx

Note: raw data was copied from "ALP1_NOx_S&T_2_CalcTool_SoCalGas.xlsx", tab "4.1.2 NOx_Results_Storage".

Storage PRJ NOx Emissions (ton NOx/yr) - Conservative

	Conservative		Year															
Transmission	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	6.5	8.6	11.6	15.4	20.1	25.8	31.7	37.6	43.4	49.3	55.3	62.0	69.2	77.0	85.3	94.1
Long	Reciprocating	20 bar	1.9	2.5	3.3	4.4	5.7	7.4	9.1	10.7	12.4	14.1	15.8	17.7	19.8	22.0	24.4	26.9
Long	Turbine	200 bar	1.7	2.3	3.1	4.1	5.3	6.8	8.4	9.9	11.5	13.0	14.6	16.4	18.3	20.3	22.5	24.9
Long	Turbine	20 bar	0.5	0.7	0.9	1.2	1.5	1.9	2.4	2.8	3.3	3.7	4.2	4.7	5.2	5.8	6.4	7.1
Short	Reciprocating	200 bar	6.5	8.6	11.6	15.4	20.1	25.8	31.7	37.6	43.4	49.3	55.3	62.0	69.2	77.0	85.3	94.1
Short	Reciprocating	20 bar	1.9	2.5	3.3	4.4	5.7	7.4	9.1	10.7	12.4	14.1	15.8	17.7	19.8	22.0	24.4	26.9
Short	Turbine	200 bar	1.7	2.3	3.1	4.1	5.3	6.8	8.4	9.9	11.5	13.0	14.6	16.4	18.3	20.3	22.5	24.9
Short	Turbine	20 bar	0.5	0.7	0.9	1.2	1.5	1.9	2.4	2.8	3.3	3.7	4.2	4.7	5.2	5.8	6.4	7.1

Storage PRJ NOx Emissions (ton NOx/yr) - Moderate

	Moderate		Year															
Transmission	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	14.0	17.8	22.7	28.6	35.7	44.1	53.0	62.2	71.6	81.3	91.3	102.3	114.0	126.4	139.5	153.3
Long	Reciprocating	20 bar	4.0	5.1	6.5	8.2	10.2	12.6	15.1	17.8	20.5	23.2	26.1	29.2	32.6	36.1	39.9	43.8
Long	Turbine	200 bar	3.7	4.7	6.0	7.6	9.4	11.6	14.0	16.4	18.9	21.5	24.1	27.0	30.1	33.4	36.8	40.5
Long	Turbine	20 bar	1.1	1.3	1.7	2.2	2.7	3.3	4.0	4.7	5.4	6.1	6.9	7.7	8.6	9.5	10.5	11.6
Short	Reciprocating	200 bar	14.0	17.8	22.7	28.6	35.7	44.1	53.0	62.2	71.6	81.3	91.3	102.3	114.0	126.4	139.5	153.3
Short	Reciprocating	20 bar	4.0	5.1	6.5	8.2	10.2	12.6	15.1	17.8	20.5	23.2	26.1	29.2	32.6	36.1	39.9	43.8
Short	Turbine	200 bar	3.7	4.7	6.0	7.6	9.4	11.6	14.0	16.4	18.9	21.5	24.1	27.0	30.1	33.4	36.8	40.5
Short	Turbine	20 bar	1.1	1.3	1.7	2.2	2.7	3.3	4.0	4.7	5.4	6.1	6.9	7.7	8.6	9.5	10.5	11.6

	A	B	C	D	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
35																				
36		**Storage PRJ NOx Emissions (ton NOx/yr) - Ambitious**																		
37			Ambitious		**Year**															
38		**Transmission**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
39		Long	Reciprocating	200 bar	54.7	64.3	74.8	86.5	99.3	113.4	127.9	143.8	159.7	176.1	193.3	211.0	229.5	248.9	269.1	290.2
40		Long	Reciprocating	20 bar	15.6	18.4	21.4	24.7	28.4	32.4	36.6	41.1	45.6	50.3	55.2	60.3	65.6	71.1	76.9	82.9
41		Long	Turbine	200 bar	14.5	17.0	19.8	22.8	26.2	29.9	33.8	38.0	42.2	46.5	51.1	55.7	60.6	65.7	71.1	76.6
42		Long	Turbine	20 bar	4.1	4.9	5.6	6.5	7.5	8.6	9.7	10.8	12.0	13.3	14.6	15.9	17.3	18.8	20.3	21.9
43		Short	Reciprocating	200 bar	54.7	64.3	74.8	86.5	99.3	113.4	127.9	143.8	159.7	176.1	193.3	211.0	229.5	248.9	269.1	290.2
44		Short	Reciprocating	20 bar	15.6	18.4	21.4	24.7	28.4	32.4	36.6	41.1	45.6	50.3	55.2	60.3	65.6	71.1	76.9	82.9
45		Short	Turbine	200 bar	14.5	17.0	19.8	22.8	26.2	29.9	33.8	38.0	42.2	46.5	51.1	55.7	60.6	65.7	71.1	76.6
46		Short	Turbine	20 bar	4.1	4.9	5.6	6.5	7.5	8.6	9.7	10.8	12.0	13.3	14.6	15.9	17.3	18.8	20.3	21.9

	Z	AA	AB	AC	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX
1																				
6																				
7		**Hydrogen Demand Scenario - Transmission - NOx**																		
8		**Note: raw data was copied from "ALP1_NOx_S&T_2_CalcTool_SoCalGas.xlsx", tab "4.1.1 NOx_Results_Transmission".**																		
9																				
10		**Transmission PRJ NOx Emissions (ton NOx/yr) - Conservative**																		
11			Conservative		**Year**															
12		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
13		Long	Reciprocating	200 bar	19.4	25.8	34.6	46.0	59.9	76.9	94.5	112.1	129.6	147.2	165.1	185.0	206.5	229.6	254.4	280.8
14		Long	Reciprocating	20 bar	19.4	25.8	34.6	46.0	59.9	76.9	94.5	112.1	129.6	147.2	165.1	185.0	206.5	229.6	254.4	280.8
15		Long	Turbine	200 bar	4.4	5.9	7.9	10.4	13.6	17.5	21.5	25.5	29.5	33.5	37.5	42.0	46.9	52.2	57.8	63.8
16		Long	Turbine	20 bar	4.4	5.9	7.9	10.4	13.6	17.5	21.5	25.5	29.5	33.5	37.5	42.0	46.9	52.2	57.8	63.8
17		Short	Reciprocating	200 bar	19.4	25.8	34.6	46.0	59.9	76.9	94.5	112.1	129.6	147.2	165.1	185.0	206.5	229.6	254.4	280.8
18		Short	Reciprocating	20 bar	19.4	25.8	34.6	46.0	59.9	76.9	94.5	112.1	129.6	147.2	165.1	185.0	206.5	229.6	254.4	280.8
19		Short	Turbine	200 bar	4.4	5.9	7.9	10.4	13.6	17.5	21.5	25.5	29.5	33.5	37.5	42.0	46.9	52.2	57.8	63.8
20		Short	Turbine	20 bar	4.4	5.9	7.9	10.4	13.6	17.5	21.5	25.5	29.5	33.5	37.5	42.0	46.9	52.2	57.8	63.8
21																				
22																				
23		**Transmission PRJ NOx Emissions (ton NOx/yr) - Moderate**																		
24			Moderate		**Year**															
25		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
26		Long	Reciprocating	200 bar	41.7	53.2	67.7	85.4	106.6	131.6	158.1	185.6	213.6	242.4	272.4	305.3	340.2	377.3	416.4	457.5
27		Long	Reciprocating	20 bar	41.7	53.2	67.7	85.4	106.6	131.6	158.1	185.6	213.6	242.4	272.4	305.3	340.2	377.3	416.4	457.5
28		Long	Turbine	200 bar	9.5	12.1	15.4	19.4	24.2	29.9	35.9	42.2	48.6	55.1	61.9	69.4	77.3	85.7	94.6	104.0
29		Long	Turbine	20 bar	9.5	12.1	15.4	19.4	24.2	29.9	35.9	42.2	48.6	55.1	61.9	69.4	77.3	85.7	94.6	104.0
30		Short	Reciprocating	200 bar	41.7	53.2	67.7	85.4	106.6	131.6	158.1	185.6	213.6	242.4	272.4	305.3	340.2	377.3	416.4	457.5
31		Short	Reciprocating	20 bar	41.7	53.2	67.7	85.4	106.6	131.6	158.1	185.6	213.6	242.4	272.4	305.3	340.2	377.3	416.4	457.5
32		Short	Turbine	200 bar	9.5	12.1	15.4	19.4	24.2	29.9	35.9	42.2	48.6	55.1	61.9	69.4	77.3	85.7	94.6	104.0
33		Short	Turbine	20 bar	9.5	12.1	15.4	19.4	24.2	29.9	35.9	42.2	48.6	55.1	61.9	69.4	77.3	85.7	94.6	104.0
34																				
35																				
36		**Transmission PRJ NOx Emissions (ton NOx/yr) - Ambitious**																		
37			Ambitious		**Year**															
38		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
39		Long	Reciprocating	200 bar	163.3	191.9	223.3	258.1	296.4	338.2	381.7	429.1	476.4	525.4	576.9	629.5	684.7	742.7	803.0	865.7
40		Long	Reciprocating	20 bar	163.3	191.9	223.3	258.1	296.4	338.2	381.7	429.1	476.4	525.4	576.9	629.5	684.7	742.7	803.0	865.7
41		Long	Turbine	200 bar	37.1	43.6	50.8	58.7	67.4	76.9	86.8	97.5	108.3	119.4	131.1	143.1	155.6	168.8	182.5	196.8
42		Long	Turbine	20 bar	37.1	43.6	50.8	58.7	67.4	76.9	86.8	97.5	108.3	119.4	131.1	143.1	155.6	168.8	182.5	196.8
43		Short	Reciprocating	200 bar	163.3	191.9	223.3	258.1	296.4	338.2	381.7	429.1	476.4	525.4	576.9	629.5	684.7	742.7	803.0	865.7
44		Short	Reciprocating	20 bar	163.3	191.9	223.3	258.1	296.4	338.2	381.7	429.1	476.4	525.4	576.9	629.5	684.7	742.7	803.0	865.7
45		Short	Turbine	200 bar	37.1	43.6	50.8	58.7	67.4	76.9	86.8	97.5	108.3	119.4	131.1	143.1	155.6	168.8	182.5	196.8
46		Short	Turbine	20 bar	37.1	43.6	50.8	58.7	67.4	76.9	86.8	97.5	108.3	119.4	131.1	143.1	155.6	168.8	182.5	196.8

	AY	AZ	BA	BB	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW
1																				
6																				
7		**Angeles Link Throughput Scenario - Storage - NOx**																		
8																				
9																				
10		**AL Storage PRJ NOx Emissions (ton NOx/yr) - Low**																		
11			Low		**Year**															
12		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
13		Long	Reciprocating	200 bar	1.7	2.3	3.1	4.1	5.4	6.9	8.5	10.1	11.7	13.2	14.9	16.6	18.6	20.7	22.9	25.3
14		Long	Reciprocating	20 bar	0.5	0.7	0.9	1.2	1.5	2.0	2.4	2.9	3.3	3.8	4.2	4.8	5.3	5.9	6.5	7.2
15		Long	Turbine	200 bar	0.5	0.6	0.8	1.1	1.4	1.8	2.2	2.7	3.1	3.5	3.9	4.4	4.9	5.5	6.0	6.7
16		Long	Turbine	20 bar	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.6	1.7	1.9
17		Short	Reciprocating	200 bar	1.7	2.3	3.1	4.1	5.4	6.9	8.5	10.1	11.7	13.2	14.9	16.6	18.6	20.7	22.9	25.3
18		Short	Reciprocating	20 bar	0.5	0.7	0.9	1.2	1.5	2.0	2.4	2.9	3.3	3.8	4.2	4.8	5.3	5.9	6.5	7.2
19		Short	Turbine	200 bar	0.5	0.6	0.8	1.1	1.4	1.8	2.2	2.7	3.1	3.5	3.9	4.4	4.9	5.5	6.0	6.7
20		Short	Turbine	20 bar	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.6	1.7	1.9
21																				
22																				
23		**AL Storage PRJ NOx Emissions (ton NOx/yr) - Medium**																		
24			Medium		**Year**															
25		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
26		Long	Reciprocating	200 bar	4.3	5.5	7.1	8.9	11.1	13.7	16.5	19.4	22.3	25.3	28.4	31.8	35.5	39.4	43.4	47.7
27		Long	Reciprocating	20 bar	1.2	1.6	2.0	2.5	3.2	3.9	4.7	5.5	6.4	7.2	8.1	9.1	10.1	11.2	12.4	13.6
28		Long	Turbine	200 bar	1.1	1.5	1.9	2.4	2.9	3.6	4.4	5.1	5.9	6.7	7.5	8.4	9.4	10.4	11.5	12.6
29		Long	Turbine	20 bar	0.3	0.4	0.5	0.7	0.8	1.0	1.2	1.5	1.7	1.9	2.1	2.4	2.7	3.0	3.3	3.6
30		Short	Reciprocating	200 bar	4.3	5.5	7.1	8.9	11.1	13.7	16.5	19.4	22.3	25.3	28.4	31.8	35.5	39.4	43.4	47.7
31		Short	Reciprocating	20 bar	1.2	1.6	2.0	2.5	3.2	3.9	4.7	5.5	6.4	7.2	8.1	9.1	10.1	11.2	12.4	13.6
32		Short	Turbine	200 bar	1.1	1.5	1.9	2.4	2.9	3.6	4.4	5.1	5.9	6.7	7.5	8.4	9.4	10.4	11.5	12.6
33		Short	Turbine	20 bar	0.3	0.4	0.5	0.7	0.8	1.0	1.2	1.5	1.7	1.9	2.1	2.4	2.7	3.0	3.3	3.6
34																				
35																				
36		**AL Storage PRJ NOx Emissions (ton NOx/yr) - High**																		
37			High		**Year**															
38		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
39		Long	Reciprocating	200 bar	13.9	16.3	19.0	21.9	25.2	28.7	32.4	36.5	40.5	44.7	49.0	53.5	58.2	63.1	68.3	73.6
40		Long	Reciprocating	20 bar	4.0	4.7	5.4	6.3	7.2	8.2	9.3	10.4	11.6	12.8	14.0	15.3	16.6	18.0	19.5	21.0
41		Long	Turbine	200 bar	3.7	4.3	5.0	5.8	6.7	7.6	8.6	9.6	10.7	11.8	12.9	14.1	15.4	16.7	18.0	19.4
42		Long	Turbine	20 bar	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.8	3.1	3.4	3.7	4.0	4.4	4.8	5.1	5.6
43		Short	Reciprocating	200 bar	13.9	16.3	19.0	21.9	25.2	28.7	32.4	36.5	40.5	44.7	49.0	53.5	58.2	63.1	68.3	73.6
44		Short	Reciprocating	20 bar	4.0	4.7	5.4	6.3	7.2	8.2	9.3	10.4	11.6	12.8	14.0	15.3	16.6	18.0	19.5	21.0
45		Short	Turbine	200 bar	3.7	4.3	5.0	5.8	6.7	7.6	8.6	9.6	10.7	11.8	12.9	14.1	15.4	16.7	18.0	19.4
46		Short	Turbine	20 bar	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.8	3.1	3.4	3.7	4.0	4.4	4.8	5.1	5.6

	BX	BY	BZ	CA	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV
1																				
6																				
7		**Angeles Link Throughput Scenario - Transmission - NOx**																		
8																				
9																				
10		**AL Transmission PRJ NOx Emissions (ton NOx/yr) - Low**																		
11			Low		**Year**															
12		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
13		Long	Reciprocating	200 bar	5.2	6.9	9.3	12.3	16.1	20.6	25.4	30.1	34.8	39.5	44.3	49.7	55.4	61.7	68.3	75.4
14		Long	Reciprocating	20 bar	5.2	6.9	9.3	12.3	16.1	20.6	25.4	30.1	34.8	39.5	44.3	49.7	55.4	61.7	68.3	75.4
15		Long	Turbine	200 bar	1.2	1.6	2.1	2.8	3.7	4.7	5.8	6.8	7.9	9.0	10.1	11.3	12.6	14.0	15.5	17.1
16		Long	Turbine	20 bar	1.2	1.6	2.1	2.8	3.7	4.7	5.8	6.8	7.9	9.0	10.1	11.3	12.6	14.0	15.5	17.1
17		Short	Reciprocating	200 bar	5.2	6.9	9.3	12.3	16.1	20.6	25.4	30.1	34.8	39.5	44.3	49.7	55.4	61.7	68.3	75.4
18		Short	Reciprocating	20 bar	5.2	6.9	9.3	12.3	16.1	20.6	25.4	30.1	34.8	39.5	44.3	49.7	55.4	61.7	68.3	75.4
19		Short	Turbine	200 bar	1.2	1.6	2.1	2.8	3.7	4.7	5.8	6.8	7.9	9.0	10.1	11.3	12.6	14.0	15.5	17.1
20		Short	Turbine	20 bar	1.2	1.6	2.1	2.8	3.7	4.7	5.8	6.8	7.9	9.0	10.1	11.3	12.6	14.0	15.5	17.1
21																				
22																				
23		**AL Transmission PRJ NOx Emissions (ton NOx/yr) - Medium**																		
24			Medium		**Year**															
25		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
26		Long	Reciprocating	200 bar	13.0	16.5	21.1	26.6	33.2	41.0	49.2	57.8	66.5	75.5	84.8	95.0	105.9	117.4	129.6	142.4
27		Long	Reciprocating	20 bar	13.0	16.5	21.1	26.6	33.2	41.0	49.2	57.8	66.5	75.5	84.8	95.0	105.9	117.4	129.6	142.4
28		Long	Turbine	200 bar	2.9	3.8	4.8	6.0	7.5	9.3	11.2	13.1	15.1	17.1	19.3	21.6	24.1	26.7	29.5	32.4
29		Long	Turbine	20 bar	2.9	3.8	4.8	6.0	7.5	9.3	11.2	13.1	15.1	17.1	19.3	21.6	24.1	26.7	29.5	32.4
30		Short	Reciprocating	200 bar	13.0	16.5	21.1	26.6	33.2	41.0	49.2	57.8	66.5	75.5	84.8	95.0	105.9	117.4	129.6	142.4
31		Short	Reciprocating	20 bar	13.0	16.5	21.1	26.6	33.2	41.0	49.2	57.8	66.5	75.5	84.8	95.0	105.9	117.4	129.6	142.4
32		Short	Turbine	200 bar	2.9	3.8	4.8	6.0	7.5	9.3	11.2	13.1	15.1	17.1	19.3	21.6	24.1	26.7	29.5	32.4
33		Short	Turbine	20 bar	2.9	3.8	4.8	6.0	7.5	9.3	11.2	13.1	15.1	17.1	19.3	21.6	24.1	26.7	29.5	32.4
34																				
35																				
36		**AL Transmission PRJ NOx Emissions (ton NOx/yr) - High**																		
37			High		**Year**															
38		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
39		Long	Reciprocating	200 bar	41.4	48.7	56.6	65.5	75.2	85.8	96.8	108.8	120.8	133.3	146.3	159.6	173.6	188.4	203.6	219.6
40		Long	Reciprocating	20 bar	41.4	48.7	56.6	65.5	75.2	85.8	96.8	108.8	120.8	133.3	146.3	159.6	173.6	188.4	203.6	219.6
41		Long	Turbine	200 bar	9.4	11.1	12.9	14.9	17.1	19.5	22.0	24.7	27.5	30.3	33.2	36.3	39.5	42.8	46.3	49.9
42		Long	Turbine	20 bar	9.4	11.1	12.9	14.9	17.1	19.5	22.0	24.7	27.5	30.3	33.2	36.3	39.5	42.8	46.3	49.9
43		Short	Reciprocating	200 bar	41.4	48.7	56.6	65.5	75.2	85.8	96.8	108.8	120.8	133.3	146.3	159.6	173.6	188.4	203.6	219.6
44		Short	Reciprocating	20 bar	41.4	48.7	56.6	65.5	75.2	85.8	96.8	108.8	120.8	133.3	146.3	159.6	173.6	188.4	203.6	219.6
45		Short	Turbine	200 bar	9.4	11.1	12.9	14.9	17.1	19.5	22.0	24.7	27.5	30.3	33.2	36.3	39.5	42.8	46.3	49.9
46		Short	Turbine	20 bar	9.4	11.1	12.9	14.9	17.1	19.5	22.0	24.7	27.5	30.3	33.2	36.3	39.5	42.8	46.3	49.9

Maximum PRJ Infrastructure NOx Emissions (ton NOx/yr) - Conservative

		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
High	Storage	6.5	8.6	11.6	15.4	20.1	25.8	31.7	37.6	43.4	49.3	55.3	62.0	69.2	77.0	85.3	94.1
	Transmission	19.4	25.8	34.6	46.0	59.9	76.9	94.5	112.1	129.6	147.2	165.1	185.0	206.5	229.6	254.4	280.8
	Production	16.53	22.03	29.57	39.25	51.18	65.66	80.71	95.71	110.69	125.72	141.00	157.94	176.29	196.08	217.26	239.80
Low	Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Transmission	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum PRJ Infrastructure NOx Emissions (ton NOx/yr) - Moderate

		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
High	Storage	14.0	17.8	22.7	28.6	35.7	44.1	53.0	62.2	71.6	81.3	91.3	102.3	114.0	126.4	139.5	153.3
	Transmission	41.7	53.2	67.7	85.4	106.6	131.6	158.1	185.6	213.6	242.4	272.4	305.3	340.2	377.3	416.4	457.5
	Production	35.61	45.39	57.80	72.91	91.06	112.39	135.02	158.49	182.41	207.01	232.60	260.70	290.52	322.14	355.53	390.63
Low	Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Transmission	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum PRJ Infrastructure NOx Emissions (ton NOx/yr) - Ambitious

		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
High	Storage	54.7	64.3	74.8	86.5	99.3	113.4	127.9	143.8	159.7	176.1	193.3	211.0	229.5	248.9	269.1	290.2
	Transmission	163.3	191.9	223.3	258.1	296.4	338.2	381.7	429.1	476.4	525.4	576.9	629.5	684.7	742.7	803.0	865.7
	Production	139.47	163.84	190.70	220.37	253.08	288.81	325.96	366.37	406.79	448.68	492.58	537.49	584.63	634.18	685.65	739.26
Low	Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Transmission	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tab Contents

Summary of storage and transmission NOx emissions results and minor calculations to develop results. The Demand Scenario results include emissions from hydrogen produced, stored, and transmitted by third-parties, in addition that hydrogen associated with Angeles Link. The Angeles Link results are specific to the hydrogen produced, stored, and transmitted within the Angeles Link system.

This tab includes the acronym PRJ. This refers to the project (PRJ) scenarios used in the calculation process (particularly for stationary sources). The PRJ scenario encompasses emissions for a sector or subsector including hydrogen adoption. Since infrastructure would only be present in the PRJ scenario, and therefore emissions would only occur in the PRJ scenario. The key findings reported in this study were change in emissions (due to hydrogen adoption either at a market level or as supplied by Angeles Link). While PRJ scenario information was used to develop certain results, this information is secondary to the core results of this study.

The timeframe of this study was 2030-2045, however this tab also contains data from 2025-2029 which is hidden. These results were calculated using data from the demand study which was available for all end-user segments.

Hydrogen Demand Scenario - Storage and Transmission - NOx

Note: raw data was copied from "ALP1_NOx_S&T_2_CalcTool_SoCalGas.xlsx", tab "4.1 NOx Results".

PRJ NOx Emissions (ton NOx/yr) - Conservative

	Conservative	Overall NOx (ton NOx)	**Year**															
Transmission Scenario	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	25.8	34.4	46.2	61.4	80.0	102.7	126.2	149.7	173.1	196.6	220.5	246.9	275.7	306.6	339.7	374.9
Long	Reciprocating	20 bar	21.2	28.3	37.9	50.4	65.7	84.3	103.6	122.8	142.0	161.3	180.9	202.7	226.2	251.6	278.8	307.7
Long	Turbine	200 bar	6.1	8.1	10.9	14.5	18.9	24.3	29.8	35.4	40.9	46.5	52.1	58.4	65.2	72.5	80.3	88.7
Long	Turbine	20 bar	4.9	6.5	8.7	11.6	15.1	19.4	23.9	28.3	32.7	37.2	41.7	46.7	52.1	58.0	64.3	70.9
Short	Reciprocating	200 bar	25.8	34.4	46.2	61.4	80.0	102.7	126.2	149.7	173.1	196.6	220.5	246.9	275.7	306.6	339.7	374.9
Short	Reciprocating	20 bar	21.2	28.3	37.9	50.4	65.7	84.3	103.6	122.8	142.0	161.3	180.9	202.7	226.2	251.6	278.8	307.7
Short	Turbine	200 bar	6.1	8.1	10.9	14.5	18.9	24.3	29.8	35.4	40.9	46.5	52.1	58.4	65.2	72.5	80.3	88.7
Short	Turbine	20 bar	4.9	6.5	8.7	11.6	15.1	19.4	23.9	28.3	32.7	37.2	41.7	46.7	52.1	58.0	64.3	70.9

PRJ NOx Emissions (ton NOx/yr) - Moderate

	Moderate	Overall NOx (ton NOx)	**Year**															
Transmission Scenario	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	55.7	71.0	90.4	114.0	142.4	175.7	211.1	247.8	285.2	323.7	363.7	407.6	454.2	503.7	555.9	610.8
Long	Reciprocating	20 bar	45.7	58.2	74.2	93.6	116.9	144.2	173.3	203.4	234.1	265.6	298.5	334.5	372.8	413.4	456.2	501.3
Long	Turbine	200 bar	13.2	16.8	21.4	27.0	33.7	41.6	49.9	58.6	67.5	76.6	86.0	96.4	107.4	119.1	131.5	144.5
Long	Turbine	20 bar	10.5	13.4	17.1	21.6	26.9	33.2	39.9	46.9	54.0	61.2	68.8	77.1	85.9	95.3	105.2	115.5
Short	Reciprocating	200 bar	55.7	71.0	90.4	114.0	142.4	175.7	211.1	247.8	285.2	323.7	363.7	407.6	454.2	503.7	555.9	610.8
Short	Reciprocating	20 bar	45.7	58.2	74.2	93.6	116.9	144.2	173.3	203.4	234.1	265.6	298.5	334.5	372.8	413.4	456.2	501.3
Short	Turbine	200 bar	13.2	16.8	21.4	27.0	33.7	41.6	49.9	58.6	67.5	76.6	86.0	96.4	107.4	119.1	131.5	144.5
Short	Turbine	20 bar	10.5	13.4	17.1	21.6	26.9	33.2	39.9	46.9	54.0	61.2	68.8	77.1	85.9	95.3	105.2	115.5

	A	B	C	D	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
35																				
36		**PRJ NOx Emissions (ton NOx/yr) - Ambitious**																		
37			Ambitious	Overall NOx (ton NOx)	**Year**															
38		**Transmission Scenario**	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
39		Long	Reciprocating	200 bar	218.1	256.2	298.2	344.6	395.7	451.6	509.7	572.9	636.1	701.5	770.2	840.4	914.1	991.6	1,072.1	1,155.9
40		Long	Reciprocating	20 bar	179.0	210.2	244.7	282.8	324.8	370.6	418.3	470.1	522.0	575.8	632.1	689.7	750.2	813.8	879.9	948.6
41		Long	Turbine	200 bar	51.6	60.6	70.5	81.5	93.6	106.8	120.5	135.5	150.4	165.9	182.2	198.8	216.2	234.5	253.6	273.4
42		Long	Turbine	20 bar	41.3	48.5	56.4	65.2	74.9	85.4	96.4	108.4	120.3	132.7	145.7	159.0	172.9	187.6	202.8	218.7
43		Short	Reciprocating	200 bar	218.1	256.2	298.2	344.6	395.7	451.6	509.7	572.9	636.1	701.5	770.2	840.4	914.1	991.6	1,072.1	1,155.9
44		Short	Reciprocating	20 bar	179.0	210.2	244.7	282.8	324.8	370.6	418.3	470.1	522.0	575.8	632.1	689.7	750.2	813.8	879.9	948.6
45		Short	Turbine	200 bar	51.6	60.6	70.5	81.5	93.6	106.8	120.5	135.5	150.4	165.9	182.2	198.8	216.2	234.5	253.6	273.4
46		Short	Turbine	20 bar	41.3	48.5	56.4	65.2	74.9	85.4	96.4	108.4	120.3	132.7	145.7	159.0	172.9	187.6	202.8	218.7
47																				

Angeles Link Throughput Scenario - Storage and Transmission - NOx

AL PRJ NOx Emissions S&T (ton NOx/yr) - Low

	Low		Year															
Transmission	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	6.9	9.2	12.4	16.5	21.5	27.6	33.9	40.2	46.5	52.8	59.2	66.3	74.0	82.3	91.2	100.7
Long	Reciprocating	20 bar	5.7	7.6	10.2	13.5	17.6	22.6	27.8	33.0	38.1	43.3	48.6	54.4	60.7	67.6	74.8	82.6
Long	Turbine	200 bar	1.6	2.2	2.9	3.9	5.1	6.5	8.0	9.5	11.0	12.5	14.0	15.7	17.5	19.5	21.6	23.8
Long	Turbine	20 bar	1.3	1.7	2.3	3.1	4.1	5.2	6.4	7.6	8.8	10.0	11.2	12.5	14.0	15.6	17.3	19.0
Short	Reciprocating	200 bar	6.9	9.2	12.4	16.5	21.5	27.6	33.9	40.2	46.5	52.8	59.2	66.3	74.0	82.3	91.2	100.7
Short	Reciprocating	20 bar	5.7	7.6	10.2	13.5	17.6	22.6	27.8	33.0	38.1	43.3	48.6	54.4	60.7	67.6	74.8	82.6
Short	Turbine	200 bar	1.6	2.2	2.9	3.9	5.1	6.5	8.0	9.5	11.0	12.5	14.0	15.7	17.5	19.5	21.6	23.8
Short	Turbine	20 bar	1.3	1.7	2.3	3.1	4.1	5.2	6.4	7.6	8.8	10.0	11.2	12.5	14.0	15.6	17.3	19.0

AL PRJ NOx Emissions S&T (ton NOx/yr) - Medium

	Medium		Year															
Transmission	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	17.3	22.1	28.1	35.5	44.3	54.7	65.7	77.1	88.8	100.7	113.2	126.9	141.4	156.8	173.0	190.1
Long	Reciprocating	20 bar	14.2	18.1	23.1	29.1	36.4	44.9	53.9	63.3	72.9	82.7	92.9	104.1	116.0	128.7	142.0	156.0
Long	Turbine	200 bar	4.1	5.2	6.7	8.4	10.5	12.9	15.5	18.2	21.0	23.8	26.8	30.0	33.4	37.1	40.9	45.0
Long	Turbine	20 bar	3.3	4.2	5.3	6.7	8.4	10.3	12.4	14.6	16.8	19.1	21.4	24.0	26.7	29.7	32.7	36.0
Short	Reciprocating	200 bar	17.3	22.1	28.1	35.5	44.3	54.7	65.7	77.1	88.8	100.7	113.2	126.9	141.4	156.8	173.0	190.1
Short	Reciprocating	20 bar	14.2	18.1	23.1	29.1	36.4	44.9	53.9	63.3	72.9	82.7	92.9	104.1	116.0	128.7	142.0	156.0
Short	Turbine	200 bar	4.1	5.2	6.7	8.4	10.5	12.9	15.5	18.2	21.0	23.8	26.8	30.0	33.4	37.1	40.9	45.0
Short	Turbine	20 bar	3.3	4.2	5.3	6.7	8.4	10.3	12.4	14.6	16.8	19.1	21.4	24.0	26.7	29.7	32.7	36.0

AL PRJ NOx Emissions S&T (ton NOx/yr) - High

	High		Year															
Transmission	**Power Scenario**	**Storage Scenario**	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Long	Reciprocating	200 bar	55.3	65.0	75.6	87.4	100.4	114.5	129.3	145.3	161.3	177.9	195.3	213.1	231.8	251.5	271.9	293.2
Long	Reciprocating	20 bar	45.4	53.3	62.1	71.7	82.4	94.0	106.1	119.2	132.4	146.0	160.3	174.9	190.3	206.4	223.1	240.6
Long	Turbine	200 bar	13.1	15.4	17.9	20.7	23.7	27.1	30.6	34.4	38.2	42.1	46.2	50.4	54.8	59.5	64.3	69.3
Long	Turbine	20 bar	10.5	12.3	14.3	16.5	19.0	21.7	24.5	27.5	30.5	33.7	36.9	40.3	43.9	47.6	51.4	55.5
Short	Reciprocating	200 bar	55.3	65.0	75.6	87.4	100.4	114.5	129.3	145.3	161.3	177.9	195.3	213.1	231.8	251.5	271.9	293.2
Short	Reciprocating	20 bar	45.4	53.3	62.1	71.7	82.4	94.0	106.1	119.2	132.4	146.0	160.3	174.9	190.3	206.4	223.1	240.6
Short	Turbine	200 bar	13.1	15.4	17.9	20.7	23.7	27.1	30.6	34.4	38.2	42.1	46.2	50.4	54.8	59.5	64.3	69.3
Short	Turbine	20 bar	10.5	12.3	14.3	16.5	19.0	21.7	24.5	27.5	30.5	33.7	36.9	40.3	43.9	47.6	51.4	55.5

Appendix D.2:

Mobility

NOx Results, Calculations, and Data

	A	B	D	E	F
1					
2		**Tab Contents**			
3		This tab demonstrates which applications fall within each subsector within the Mobility			
4					
5		**Sector**	**Application**	**Subsector**	
17		Mobility	Agricultural Tractors	Agriculture	
18		Mobility	ATVs	Agriculture	
19		Mobility	Bale Wagons (Self Propelled)	Agriculture	
20		Mobility	Balers (Self Propelled)	Agriculture	
21		Mobility	Combine Harvesters	Agriculture	
22		Mobility	Construction Equipment	Agriculture	
23		Mobility	Cotton Pickers	Agriculture	
24		Mobility	Forage & Silage Harvesters	Agriculture	
25		Mobility	Forklifts	Agriculture	
26		Mobility	Hay Squeeze/Stack Retriever	Agriculture	
27		Mobility	Nut Harvester	Agriculture	
28		Mobility	Other Harvesters	Agriculture	
29		Mobility	Sprayers/Spray Rigs	Agriculture	
30		Mobility	Swathers/Windrowers/Hay Conditioners	Agriculture	
32		Mobility	All Other Buses	Bus	
33		Mobility	Motor Coach	Bus	
34		Mobility	OBUS	Bus	
35		Mobility	SBUS	Bus	
36		Mobility	UBUS	Bus	
37		Mobility	Barge/Dredge - AE	CHC	
38		Mobility	Commercial Fishing - AE	CHC	
39		Mobility	Commercial Fishing - ME	CHC	
40		Mobility	Excursion - AE	CHC	
41		Mobility	Excursion - ME	CHC	
42		Mobility	Ferry - AE	CHC	
43		Mobility	Ferry - ME	CHC	
44		Mobility	Other - AE	CHC	
45		Mobility	Other - ME	CHC	
46		Mobility	Tugboat - AE	CHC	
47		Mobility	Tugboat - ME	CHC	
48		Mobility	AGV	CHE	
49		Mobility	Bulldozer	CHE	
50		Mobility	Cone vehicle	CHE	
51		Mobility	Container Handling Equipment	CHE	
52		Mobility	Excavator	CHE	
53		Mobility	Forklift	CHE	
54		Mobility	Man Lift	CHE	
55		Mobility	Port Crane	CHE	
56		Mobility	Rail Pusher	CHE	
57		Mobility	RTG Crane	CHE	
58		Mobility	Skid steer	CHE	
59		Mobility	Tractor	CHE	
60		Mobility	Truck	CHE	
61		Mobility	Yard Truck	CHE	
62		Mobility	Asphalt Pavers	Construction and Mining	
63		Mobility	Bore/Drill Rigs	Construction and Mining	
64		Mobility	Cement and Mortar Mixers	Construction and Mining	
65		Mobility	Concrete/Industrial Saws	Construction and Mining	
66		Mobility	Cranes	Construction and Mining	
67		Mobility	Crawler Tractors	Construction and Mining	
68		Mobility	Crushing/Proc. Equipment	Construction and Mining	
69		Mobility	Dumpers/Tenders	Construction and Mining	
70		Mobility	Excavators	Construction and Mining	
71		Mobility	Graders	Construction and Mining	
72		Mobility	Off Highway Tractors	Construction and Mining	
73		Mobility	Off Highway Trucks	Construction and Mining	
74		Mobility	Other	Construction and Mining	
75		Mobility	Pavers	Construction and Mining	
76		Mobility	Paving Equipment	Construction and Mining	
77		Mobility	Plate Compactors	Construction and Mining	
78		Mobility	Rollers	Construction and Mining	
79		Mobility	Rough Terrain Forklifts	Construction and Mining	
80		Mobility	Rubber Tired Dozers	Construction and Mining	
81		Mobility	Rubber Tired Loaders	Construction and Mining	
82		Mobility	Scrapers	Construction and Mining	

	A	B	D	E	F
1					
2		**Tab Contents**			
3		This tab demonstrates which applications fall within each subsector within the Mobility			
4					
5		**Sector**	**Application**	**Subsector**	
83		Mobility	Signal Boards	Construction and Mining	
84		Mobility	Skid Steer Loaders	Construction and Mining	
85		Mobility	Surfacing Equipment	Construction and Mining	
86		Mobility	Tampers/Rammers	Construction and Mining	
87		Mobility	Tractors/Loaders/Backhoes	Construction and Mining	
88		Mobility	Trenchers	Construction and Mining	
89		Mobility	A/C TugNarrow Body	GSE	
90		Mobility	A/C TugWide Body	GSE	
91		Mobility	Air Conditioner	GSE	
92		Mobility	Air Start Unit	GSE	
93		Mobility	Baggage Tug	GSE	
94		Mobility	Belt Loader	GSE	
95		Mobility	Bobtail	GSE	
96		Mobility	Cargo Loader	GSE	
97		Mobility	Cargo Tractor	GSE	
98		Mobility	Cart	GSE	
99		Mobility	Catering Truck	GSE	
100		Mobility	Deicer	GSE	
101		Mobility	Forklift	GSE	
102		Mobility	Fuel Truck	GSE	
103		Mobility	Generator	GSE	
104		Mobility	Ground Power Unit	GSE	
105		Mobility	Hydrant Truck	GSE	
106		Mobility	Lav Cart	GSE	
107		Mobility	Lav Truck	GSE	
108		Mobility	Lift	GSE	
109		Mobility	Maint. Truck	GSE	
110		Mobility	Other	GSE	
111		Mobility	Passenger Stand	GSE	
112		Mobility	Service Truck	GSE	
113		Mobility	Sweeper	GSE	
114		Mobility	Water Truck	GSE	
119		Mobility	LHD1	MDV	
120		Mobility	LHD2	MDV	
121		Mobility	MH	MDV	
122		Mobility	T6 CAIRP Class 4	MDV	
123		Mobility	T6 CAIRP Class 5	MDV	
124		Mobility	T6 CAIRP Class 6	MDV	
125		Mobility	T6 CAIRP Class 7	MDV	
126		Mobility	T6 Instate Delivery Class 4	MDV	
127		Mobility	T6 Instate Delivery Class 5	MDV	
128		Mobility	T6 Instate Delivery Class 6	MDV	
129		Mobility	T6 Instate Delivery Class 7	MDV	
130		Mobility	T6 Instate Other Class 4	MDV	
131		Mobility	T6 Instate Other Class 5	MDV	
132		Mobility	T6 Instate Other Class 6	MDV	
133		Mobility	T6 Instate Other Class 7	MDV	
134		Mobility	T6 Instate Tractor Class 6	MDV	
135		Mobility	T6 Instate Tractor Class 7	MDV	
136		Mobility	T6 OOS Class 4	MDV	
137		Mobility	T6 OOS Class 5	MDV	
138		Mobility	T6 OOS Class 6	MDV	
139		Mobility	T6 OOS Class 7	MDV	
140		Mobility	T6 Public Class 4	MDV	
141		Mobility	T6 Public Class 5	MDV	
142		Mobility	T6 Public Class 6	MDV	
143		Mobility	T6 Public Class 7	MDV	
144		Mobility	T6 Utility Class 5	MDV	
145		Mobility	T6 Utility Class 6	MDV	
146		Mobility	T6 Utility Class 7	MDV	
147		Mobility	T6TS	MDV	
148		Mobility	T7 CAIRP Class 8	HDV	
149		Mobility	T7 NNOOS Class 8	HDV	
150		Mobility	T7 NOOS Class 8	HDV	
151		Mobility	T7 Other Port Class 8	HDV	

	A	B	D	E	F
1					
2		**Tab Contents**			
3		This tab demonstrates which applications fall within each subsector within the Mobility			
4					
5		**Sector**	**Application**	**Subsector**	
152		Mobility	T7 POAK Class 8	HDV	
153		Mobility	T7 POLA Class 8	HDV	
154		Mobility	T7 Public Class 8	HDV	
155		Mobility	T7 Single Concrete/Transit Mix Class 8	HDV	
156		Mobility	T7 Single Dump Class 8	HDV	
157		Mobility	T7 Single Other Class 8	HDV	
158		Mobility	T7 SWCV Class 8	HDV	
159		Mobility	T7 Tractor Class 8	HDV	
160		Mobility	T7 Utility Class 8	HDV	
161		Mobility	T7IS	HDV	

	A	B	C	D	E	F
1						
2		**Tab Contents**				
3		This tab outlines the weighted pollutant emission factors developed for each subsector, year, and fuel type from the EMFAC data. Background data and weighting is occuring on the tabs titled, "Onroad_NOx_day" and "Offroad_NOx_day".				
4						
5		**Subsector**	**Year**	**Fuel Type**	**NOx (ton/gal)**	
74	On-Road	MDV	2030	Diesel	1.5408E-05	
75	On-Road	MDV	2031	Diesel	1.45356E-05	
76	On-Road	MDV	2032	Diesel	1.37619E-05	
77	On-Road	MDV	2033	Diesel	1.30613E-05	
78	On-Road	MDV	2034	Diesel	1.24523E-05	
79	On-Road	MDV	2035	Diesel	1.18889E-05	
80	On-Road	MDV	2036	Diesel	1.13642E-05	
81	On-Road	MDV	2037	Diesel	1.08454E-05	
82	On-Road	MDV	2038	Diesel	1.03742E-05	
83	On-Road	MDV	2039	Diesel	9.92388E-06	
84	On-Road	MDV	2040	Diesel	9.50353E-06	
85	On-Road	MDV	2041	Diesel	9.11507E-06	
86	On-Road	MDV	2042	Diesel	8.75257E-06	
87	On-Road	MDV	2043	Diesel	8.46333E-06	
88	On-Road	MDV	2044	Diesel	8.11759E-06	
89	On-Road	MDV	2045	Diesel	7.82991E-06	
95	On-Road	MDV	2030	Gasoline	3.69643E-06	
96	On-Road	MDV	2031	Gasoline	3.53105E-06	
97	On-Road	MDV	2032	Gasoline	3.39744E-06	
98	On-Road	MDV	2033	Gasoline	3.31821E-06	
99	On-Road	MDV	2034	Gasoline	3.24314E-06	
100	On-Road	MDV	2035	Gasoline	3.17457E-06	
101	On-Road	MDV	2036	Gasoline	3.10868E-06	
102	On-Road	MDV	2037	Gasoline	3.04537E-06	
103	On-Road	MDV	2038	Gasoline	2.98429E-06	
104	On-Road	MDV	2039	Gasoline	2.91677E-06	
105	On-Road	MDV	2040	Gasoline	2.84674E-06	
106	On-Road	MDV	2041	Gasoline	2.80607E-06	
107	On-Road	MDV	2042	Gasoline	2.77173E-06	
108	On-Road	MDV	2043	Gasoline	2.74691E-06	
109	On-Road	MDV	2044	Gasoline	2.72313E-06	
110	On-Road	MDV	2045	Gasoline	2.69461E-06	
137	On-Road	HDV	2030	Diesel	1.65941E-05	
138	On-Road	HDV	2031	Diesel	1.65762E-05	
139	On-Road	HDV	2032	Diesel	1.65494E-05	
140	On-Road	HDV	2033	Diesel	1.65086E-05	
141	On-Road	HDV	2034	Diesel	1.64677E-05	
142	On-Road	HDV	2035	Diesel	1.64294E-05	
143	On-Road	HDV	2036	Diesel	1.63921E-05	
144	On-Road	HDV	2037	Diesel	1.63752E-05	
145	On-Road	HDV	2038	Diesel	1.6352E-05	
146	On-Road	HDV	2039	Diesel	1.6332E-05	
147	On-Road	HDV	2040	Diesel	1.63087E-05	
148	On-Road	HDV	2041	Diesel	1.62849E-05	
149	On-Road	HDV	2042	Diesel	1.62651E-05	
150	On-Road	HDV	2043	Diesel	1.62477E-05	
151	On-Road	HDV	2044	Diesel	1.62293E-05	
152	On-Road	HDV	2045	Diesel	1.62162E-05	
158	On-Road	HDV	2030	Gasoline	1.53503E-05	
159	On-Road	HDV	2031	Gasoline	1.4657E-05	
160	On-Road	HDV	2032	Gasoline	1.40707E-05	
161	On-Road	HDV	2033	Gasoline	1.39163E-05	
162	On-Road	HDV	2034	Gasoline	1.379E-05	
163	On-Road	HDV	2035	Gasoline	1.37266E-05	
164	On-Road	HDV	2036	Gasoline	1.35409E-05	
165	On-Road	HDV	2037	Gasoline	1.32873E-05	
166	On-Road	HDV	2038	Gasoline	1.30457E-05	
167	On-Road	HDV	2039	Gasoline	1.28176E-05	
168	On-Road	HDV	2040	Gasoline	1.26158E-05	
169	On-Road	HDV	2041	Gasoline	1.24217E-05	
170	On-Road	HDV	2042	Gasoline	1.21765E-05	

	A	B	C	D	E	F
5		**Subsector**	**Year**	**Fuel Type**	**NOx (ton/gal)**	
171	On-Road	HDV	2043	Gasoline	1.21451E-05	
172	On-Road	HDV	2044	Gasoline	1.22591E-05	
173	On-Road	HDV	2045	Gasoline	1.24877E-05	
200	On-Road	Bus	2030	Diesel	2.56223E-05	
201	On-Road	Bus	2031	Diesel	2.40938E-05	
202	On-Road	Bus	2032	Diesel	2.2507E-05	
203	On-Road	Bus	2033	Diesel	2.08855E-05	
204	On-Road	Bus	2034	Diesel	1.9336E-05	
205	On-Road	Bus	2035	Diesel	1.79612E-05	
206	On-Road	Bus	2036	Diesel	1.66437E-05	
207	On-Road	Bus	2037	Diesel	1.54692E-05	
208	On-Road	Bus	2038	Diesel	1.44554E-05	
209	On-Road	Bus	2039	Diesel	1.35563E-05	
210	On-Road	Bus	2040	Diesel	1.28066E-05	
211	On-Road	Bus	2041	Diesel	1.2193E-05	
212	On-Road	Bus	2042	Diesel	1.16121E-05	
213	On-Road	Bus	2043	Diesel	1.11852E-05	
214	On-Road	Bus	2044	Diesel	1.077E-05	
215	On-Road	Bus	2045	Diesel	1.0399E-05	
221	On-Road	Bus	2030	Gasoline	3.28095E-06	
222	On-Road	Bus	2031	Gasoline	3.20841E-06	
223	On-Road	Bus	2032	Gasoline	3.08501E-06	
224	On-Road	Bus	2033	Gasoline	2.89079E-06	
225	On-Road	Bus	2034	Gasoline	2.68022E-06	
226	On-Road	Bus	2035	Gasoline	2.53649E-06	
227	On-Road	Bus	2036	Gasoline	2.47611E-06	
228	On-Road	Bus	2037	Gasoline	2.51673E-06	
229	On-Road	Bus	2038	Gasoline	2.51045E-06	
230	On-Road	Bus	2039	Gasoline	2.49452E-06	
231	On-Road	Bus	2040	Gasoline	2.4614E-06	
232	On-Road	Bus	2041	Gasoline	2.38923E-06	
233	On-Road	Bus	2042	Gasoline	2.34773E-06	
234	On-Road	Bus	2043	Gasoline	2.38075E-06	
235	On-Road	Bus	2044	Gasoline	2.38712E-06	
236	On-Road	Bus	2045	Gasoline	2.39196E-06	
263	Off-Road	Agriculture	2030	Diesel	4.65558E-05	
264	Off-Road	Agriculture	2031	Diesel	4.40742E-05	
265	Off-Road	Agriculture	2032	Diesel	4.1768E-05	
266	Off-Road	Agriculture	2033	Diesel	3.96034E-05	
267	Off-Road	Agriculture	2034	Diesel	3.75896E-05	
268	Off-Road	Agriculture	2035	Diesel	3.56614E-05	
269	Off-Road	Agriculture	2036	Diesel	3.38678E-05	
270	Off-Road	Agriculture	2037	Diesel	3.21411E-05	
271	Off-Road	Agriculture	2038	Diesel	3.05677E-05	
272	Off-Road	Agriculture	2039	Diesel	2.90764E-05	
273	Off-Road	Agriculture	2040	Diesel	2.76756E-05	
274	Off-Road	Agriculture	2041	Diesel	2.64032E-05	
275	Off-Road	Agriculture	2042	Diesel	2.5167E-05	
276	Off-Road	Agriculture	2043	Diesel	2.4047E-05	
277	Off-Road	Agriculture	2044	Diesel	2.29893E-05	
278	Off-Road	Agriculture	2045	Diesel	2.20249E-05	
284	Off-Road	Agriculture	2030	Gasoline	4.24211E-05	
285	Off-Road	Agriculture	2031	Gasoline	4.1701E-05	
286	Off-Road	Agriculture	2032	Gasoline	4.08608E-05	
287	Off-Road	Agriculture	2033	Gasoline	4.00096E-05	
288	Off-Road	Agriculture	2034	Gasoline	3.88279E-05	
289	Off-Road	Agriculture	2035	Gasoline	3.79017E-05	
290	Off-Road	Agriculture	2036	Gasoline	3.73472E-05	
291	Off-Road	Agriculture	2037	Gasoline	3.67183E-05	
292	Off-Road	Agriculture	2038	Gasoline	3.58939E-05	
293	Off-Road	Agriculture	2039	Gasoline	3.52912E-05	
294	Off-Road	Agriculture	2040	Gasoline	3.50535E-05	
295	Off-Road	Agriculture	2041	Gasoline	3.49399E-05	
296	Off-Road	Agriculture	2042	Gasoline	3.49713E-05	
297	Off-Road	Agriculture	2043	Gasoline	3.52379E-05	
298	Off-Road	Agriculture	2044	Gasoline	3.5302E-05	
299	Off-Road	Agriculture	2045	Gasoline	3.51929E-05	
326	Off-Road	CHC	2030	Diesel	6.4946E-05	

	A	B	C	D	E	F
5		**Subsector**	**Year**	**Fuel Type**	**NOx (ton/gal)**	
327	Off-Road	CHC	2031	Diesel	5.8574E-05	
328	Off-Road	CHC	2032	Diesel	5.3272E-05	
329	Off-Road	CHC	2033	Diesel	5.04112E-05	
330	Off-Road	CHC	2034	Diesel	4.93843E-05	
331	Off-Road	CHC	2035	Diesel	4.94969E-05	
332	Off-Road	CHC	2036	Diesel	4.96009E-05	
333	Off-Road	CHC	2037	Diesel	4.96962E-05	
334	Off-Road	CHC	2038	Diesel	4.97797E-05	
335	Off-Road	CHC	2039	Diesel	4.98475E-05	
336	Off-Road	CHC	2040	Diesel	4.98966E-05	
337	Off-Road	CHC	2041	Diesel	4.99269E-05	
338	Off-Road	CHC	2042	Diesel	4.994E-05	
339	Off-Road	CHC	2043	Diesel	4.99438E-05	
340	Off-Road	CHC	2044	Diesel	4.99417E-05	
341	Off-Road	CHC	2045	Diesel	4.99313E-05	
347	Off-Road	CHC	2030	Gasoline	0	
348	Off-Road	CHC	2031	Gasoline	0	
349	Off-Road	CHC	2032	Gasoline	0	
350	Off-Road	CHC	2033	Gasoline	0	
351	Off-Road	CHC	2034	Gasoline	0	
352	Off-Road	CHC	2035	Gasoline	0	
353	Off-Road	CHC	2036	Gasoline	0	
354	Off-Road	CHC	2037	Gasoline	0	
355	Off-Road	CHC	2038	Gasoline	0	
356	Off-Road	CHC	2039	Gasoline	0	
357	Off-Road	CHC	2040	Gasoline	0	
358	Off-Road	CHC	2041	Gasoline	0	
359	Off-Road	CHC	2042	Gasoline	0	
360	Off-Road	CHC	2043	Gasoline	0	
361	Off-Road	CHC	2044	Gasoline	0	
362	Off-Road	CHC	2045	Gasoline	0	
389	Off-Road	CHE	2030	Diesel	1.96996E-05	
390	Off-Road	CHE	2031	Diesel	1.95477E-05	
391	Off-Road	CHE	2032	Diesel	1.88505E-05	
392	Off-Road	CHE	2033	Diesel	1.5257E-05	
393	Off-Road	CHE	2034	Diesel	1.0534E-05	
394	Off-Road	CHE	2035	Diesel	8.96566E-06	
395	Off-Road	CHE	2036	Diesel	7.20679E-06	
396	Off-Road	CHE	2037	Diesel	4.7403E-06	
397	Off-Road	CHE	2038	Diesel	4.8902E-06	
398	Off-Road	CHE	2039	Diesel	4.61179E-06	
399	Off-Road	CHE	2040	Diesel	4.7585E-06	
400	Off-Road	CHE	2041	Diesel	4.94482E-06	
401	Off-Road	CHE	2042	Diesel	4.53022E-06	
402	Off-Road	CHE	2043	Diesel	4.74071E-06	
403	Off-Road	CHE	2044	Diesel	4.91888E-06	
404	Off-Road	CHE	2045	Diesel	4.65173E-06	
410	Off-Road	CHE	2030	Gasoline	1.14013E-05	
411	Off-Road	CHE	2031	Gasoline	1.14038E-05	
412	Off-Road	CHE	2032	Gasoline	8.15744E-06	
413	Off-Road	CHE	2033	Gasoline	1.03949E-05	
414	Off-Road	CHE	2034	Gasoline	1.13851E-05	
415	Off-Road	CHE	2035	Gasoline	1.14134E-05	
416	Off-Road	CHE	2036	Gasoline	1.14245E-05	
417	Off-Road	CHE	2037	Gasoline	1.14408E-05	
418	Off-Road	CHE	2038	Gasoline	1.14275E-05	
419	Off-Road	CHE	2039	Gasoline	1.00925E-05	
420	Off-Road	CHE	2040	Gasoline	1.0409E-05	
421	Off-Road	CHE	2041	Gasoline	1.12531E-05	
422	Off-Road	CHE	2042	Gasoline	1.13368E-05	
423	Off-Road	CHE	2043	Gasoline	1.13632E-05	
424	Off-Road	CHE	2044	Gasoline	1.12698E-05	
425	Off-Road	CHE	2045	Gasoline	1.13867E-05	
452	Off-Road	C&M	2030	Diesel	2.34072E-05	
453	Off-Road	C&M	2031	Diesel	2.23673E-05	
454	Off-Road	C&M	2032	Diesel	2.08734E-05	
455	Off-Road	C&M	2033	Diesel	2.01363E-05	
456	Off-Road	C&M	2034	Diesel	1.94755E-05	

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5		**Subsector**	**Year**	**Fuel Type**	**NOx (ton/gal)**	
457	Off-Road	C&M	2035	Diesel	1.88937E-05	
458	Off-Road	C&M	2036	Diesel	1.66055E-05	
459	Off-Road	C&M	2037	Diesel	1.6281E-05	
460	Off-Road	C&M	2038	Diesel	1.59983E-05	
461	Off-Road	C&M	2039	Diesel	1.57523E-05	
462	Off-Road	C&M	2040	Diesel	1.55474E-05	
463	Off-Road	C&M	2041	Diesel	1.53452E-05	
464	Off-Road	C&M	2042	Diesel	1.51714E-05	
465	Off-Road	C&M	2043	Diesel	1.50225E-05	
466	Off-Road	C&M	2044	Diesel	1.48833E-05	
467	Off-Road	C&M	2045	Diesel	1.47661E-05	
473	Off-Road	C&M	2030	Gasoline	7.48858E-05	
474	Off-Road	C&M	2031	Gasoline	7.48685E-05	
475	Off-Road	C&M	2032	Gasoline	7.48839E-05	
476	Off-Road	C&M	2033	Gasoline	7.48615E-05	
477	Off-Road	C&M	2034	Gasoline	7.49002E-05	
478	Off-Road	C&M	2035	Gasoline	7.49932E-05	
479	Off-Road	C&M	2036	Gasoline	7.51025E-05	
480	Off-Road	C&M	2037	Gasoline	7.52026E-05	
481	Off-Road	C&M	2038	Gasoline	7.5306E-05	
482	Off-Road	C&M	2039	Gasoline	7.54007E-05	
483	Off-Road	C&M	2040	Gasoline	7.55098E-05	
484	Off-Road	C&M	2041	Gasoline	7.55779E-05	
485	Off-Road	C&M	2042	Gasoline	7.56272E-05	
486	Off-Road	C&M	2043	Gasoline	7.56394E-05	
487	Off-Road	C&M	2044	Gasoline	7.56327E-05	
488	Off-Road	C&M	2045	Gasoline	7.5568E-05	
515	Off-Road	GSE	2030	Diesel	2.42767E-05	
516	Off-Road	GSE	2031	Diesel	2.3499E-05	
517	Off-Road	GSE	2032	Diesel	2.25464E-05	
518	Off-Road	GSE	2033	Diesel	2.19331E-05	
519	Off-Road	GSE	2034	Diesel	2.14305E-05	
520	Off-Road	GSE	2035	Diesel	2.09443E-05	
521	Off-Road	GSE	2036	Diesel	1.94187E-05	
522	Off-Road	GSE	2037	Diesel	1.91246E-05	
523	Off-Road	GSE	2038	Diesel	1.88778E-05	
524	Off-Road	GSE	2039	Diesel	1.864E-05	
525	Off-Road	GSE	2040	Diesel	1.84156E-05	
526	Off-Road	GSE	2041	Diesel	1.82078E-05	
527	Off-Road	GSE	2042	Diesel	1.80374E-05	
528	Off-Road	GSE	2043	Diesel	1.78824E-05	
529	Off-Road	GSE	2044	Diesel	1.77264E-05	
530	Off-Road	GSE	2045	Diesel	1.75581E-05	

	A	B	C	D	E	F
5		**Subsector**	**Year**	**Fuel Type**	**NOx (ton/gal)**	
536	Off-Road	GSE	2030	Gasoline	3.30558E-05	
537	Off-Road	GSE	2031	Gasoline	3.30025E-05	
538	Off-Road	GSE	2032	Gasoline	3.28184E-05	
539	Off-Road	GSE	2033	Gasoline	3.27281E-05	
540	Off-Road	GSE	2034	Gasoline	3.26954E-05	
541	Off-Road	GSE	2035	Gasoline	3.2671E-05	
542	Off-Road	GSE	2036	Gasoline	3.26589E-05	
543	Off-Road	GSE	2037	Gasoline	3.26298E-05	
544	Off-Road	GSE	2038	Gasoline	3.26248E-05	
545	Off-Road	GSE	2039	Gasoline	3.26339E-05	
546	Off-Road	GSE	2040	Gasoline	3.26511E-05	
547	Off-Road	GSE	2041	Gasoline	3.26511E-05	
548	Off-Road	GSE	2042	Gasoline	3.26511E-05	
549	Off-Road	GSE	2043	Gasoline	3.26511E-05	
550	Off-Road	GSE	2044	Gasoline	3.26511E-05	
551	Off-Road	GSE	2045	Gasoline	3.26511E-05	

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2	**Tab Contents**								
3	This tab calculates the volume of gasoline and diesel fuels displaced specifically by Angeles Link based on the percentages provided by the Demand Study as represented on the tab titled, "AL_Volumes". It also demonstrates the volume of gasoline and diesel displaced by market adoption of FCEVs, as provided by the Demand Study. Emission reductions were calculated by multiplying the displaced fuel volume by the emissions factor.								
4									
5				**Market Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**
8	On-Road	MDV	2030	5,031,766.71	10,607,517.29	19,960,996.51	3,919,358.01	7,227,232.02	13,105,215.30
9	On-Road	MDV	2031	7,029,232.57	13,466,269.78	24,655,434.03	5,767,603.82	9,738,544.74	17,096,824.14
10	On-Road	MDV	2032	9,640,199.41	16,888,985.35	29,637,297.53	8,370,993.21	13,089,263.86	21,928,386.37
11	On-Road	MDV	2033	12,931,915.16	20,925,108.28	34,887,369.99	11,793,309.45	17,281,924.52	27,423,029.16
12	On-Road	MDV	2034	16,963,221.29	25,616,590.29	40,382,047.98	16,134,081.51	22,372,195.59	33,499,361.81
13	On-Road	MDV	2035	21,766,190.95	30,973,547.03	46,060,831.16	21,483,869.21	28,412,982.70	40,086,718.03
14	On-Road	MDV	2036	26,509,629.84	36,150,217.29	51,412,555.51	26,779,795.55	34,292,710.68	46,376,225.20
15	On-Road	MDV	2037	31,167,907.10	41,130,498.00	56,454,446.64	31,869,524.39	39,848,360.03	52,215,567.87
16	On-Road	MDV	2038	35,796,603.28	45,980,269.65	61,264,370.88	36,763,273.10	45,101,316.25	57,640,552.64
17	On-Road	MDV	2039	40,421,931.20	50,729,595.72	65,875,454.00	41,507,610.49	50,105,779.02	62,713,420.88
18	On-Road	MDV	2040	45,081,694.63	55,421,796.43	70,336,039.98	46,020,795.09	54,776,169.09	67,343,979.05
19	On-Road	MDV	2041	49,833,665.49	60,238,170.41	74,973,896.08	50,257,920.67	59,156,557.81	71,682,869.34
20	On-Road	MDV	2042	54,671,508.88	65,177,192.78	79,792,207.13	54,150,885.55	63,176,571.07	75,656,761.13
21	On-Road	MDV	2043	59,609,682.92	70,253,378.98	84,804,457.91	57,807,453.59	66,954,032.06	79,393,833.56
22	On-Road	MDV	2044	64,586,031.21	75,396,584.60	89,930,611.40	61,105,039.59	70,352,961.65	82,742,467.94
23	On-Road	MDV	2045	69,657,271.45	80,667,539.66	95,234,846.31	64,110,082.44	73,445,497.23	85,780,462.14
24	On-Road	HDV	2030	38,033,416.37	114,100,249.12	232,615,673.19	-	-	-
25	On-Road	HDV	2031	50,792,817.43	138,107,864.62	276,666,771.91	-	-	-
26	On-Road	HDV	2032	71,914,221.89	170,610,255.17	326,947,395.13	147.42	226.81	361.76
27	On-Road	HDV	2033	102,002,336.55	212,170,882.58	383,779,180.76	570.19	787.85	1,145.64
28	On-Road	HDV	2034	141,726,487.77	263,461,608.65	447,690,250.87	1,141.15	1,465.40	1,976.91
29	On-Road	HDV	2035	191,736,336.72	325,085,848.17	519,060,659.82	2,005.57	2,409.38	3,003.34
30	On-Road	HDV	2036	238,749,948.58	382,976,332.41	585,938,823.09	2,979.35	3,472.03	4,157.47
31	On-Road	HDV	2037	282,773,595.39	437,246,215.32	648,820,363.22	4,005.26	4,592.44	5,375.88
32	On-Road	HDV	2038	324,175,243.03	488,373,158.72	708,297,214.59	5,035.42	5,717.92	6,600.53
33	On-Road	HDV	2039	363,293,773.91	536,793,888.20	764,886,415.35	6,066.41	6,844.71	7,827.32
34	On-Road	HDV	2040	400,487,520.84	582,975,786.48	819,150,320.82	7,004.26	7,869.11	8,941.61
35	On-Road	HDV	2041	443,030,681.05	631,147,953.85	871,561,903.10	7,954.58	8,907.69	10,072.30
36	On-Road	HDV	2042	491,415,703.50	681,633,512.42	922,210,153.54	8,868.58	9,906.59	11,159.77

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2	**Tab Contents**								
3	This tab calculates the volume of gasoline and diesel fuels displaced specifically by Angeles Link based on the percentages provided by the Demand Study as represented on the tab titled, "AL_Volumes". It also demonstrates the volume of gasoline and diesel displaced by market adoption of FCEVs, as provided by the Demand Study. Emission reductions were calculated by multiplying the displaced fuel volume by the emissions factor.								
4									
5				**Market Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**
37	On-Road	HDV	2043	545,543,650.43	734,527,472.92	971,401,118.53	9,786.23	10,909.84	12,252.66
38	On-Road	HDV	2044	605,185,543.72	789,787,785.60	1,019,298,701.67	10,668.85	11,874.79	13,303.79
39	On-Road	HDV	2045	670,094,104.60	847,329,791.45	1,065,997,550.85	11,463.26	12,742.79	14,248.44
40	On-Road	Bus	2030	2,744,478.52	5,668,100.97	10,487,814.17	41,655,936.59	86,106,404.81	159,342,697.44
41	On-Road	Bus	2031	3,563,454.40	6,613,998.31	11,860,862.13	54,370,480.75	101,001,117.85	181,156,540.80
42	On-Road	Bus	2032	4,500,173.88	7,613,987.74	13,086,957.27	68,697,365.69	116,417,332.29	200,225,710.29
43	On-Road	Bus	2033	5,531,519.12	8,646,954.60	14,153,826.60	84,478,725.32	132,308,365.05	216,786,620.87
44	On-Road	Bus	2034	6,675,698.62	9,741,178.18	15,114,636.74	101,565,123.63	148,622,813.31	231,070,804.23
45	On-Road	Bus	2035	7,933,439.62	10,900,931.21	15,984,683.06	119,819,423.62	165,311,885.40	243,291,952.10
46	On-Road	Bus	2036	9,055,752.83	11,926,372.11	16,729,011.72	146,948,644.89	191,985,477.00	266,829,381.49
47	On-Road	Bus	2037	10,048,537.22	12,829,033.60	17,374,029.48	172,880,530.86	217,522,549.14	289,441,048.76
48	On-Road	Bus	2038	10,913,327.34	13,609,162.09	17,917,764.16	197,121,422.38	241,477,310.53	310,820,958.30
49	On-Road	Bus	2039	11,663,397.14	14,279,693.90	18,371,425.25	219,771,714.03	263,946,497.94	331,050,987.60
50	On-Road	Bus	2040	12,304,307.50	14,845,125.92	18,736,986.59	240,971,524.00	285,060,889.38	350,232,222.44

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2	**Tab Contents**								
3	This tab calculates the volume of gasoline and diesel fuels displaced specifically by Angeles Link based on the percentages provided by the Demand Study as represented on the tab titled, "AL_Volumes". It also demonstrates the volume of gasoline and diesel displaced by market adoption of FCEVs, as provided by the Demand Study. Emission reductions were calculated by multiplying the displaced fuel volume by the emissions factor.								
4									
5				**Market Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**
51	On-Road	Bus	2041	12,816,665.42	15,282,708.64	18,986,819.92	260,859,248.85	304,950,001.83	368,465,471.72
52	On-Road	Bus	2042	13,320,049.72	15,722,824.78	19,262,225.97	279,533,624.64	323,701,398.92	385,808,459.02
53	On-Road	Bus	2043	13,844,575.55	16,196,756.27	19,594,233.04	297,107,451.51	341,420,019.14	402,341,517.07
54	On-Road	Bus	2044	14,304,309.15	16,608,857.92	19,875,578.06	313,649,779.18	358,164,326.32	418,096,878.11
55	On-Road	Bus	2045	14,702,431.75	16,962,215.14	20,108,889.31	329,297,482.27	374,069,112.04	433,193,896.09
56	Off-Road	Agriculture	2030	643,716.92	1,050,912.11	1,603,918.04	53,610.66	87,018.05	132,467.97
57	Off-Road	Agriculture	2031	904,579.65	1,445,117.63	2,177,588.72	76,049.93	120,365.17	180,603.52
58	Off-Road	Agriculture	2032	1,181,297.91	1,874,193.66	2,802,565.58	100,129.45	156,724.26	232,891.90
59	Off-Road	Agriculture	2033	1,472,133.46	2,336,580.15	3,476,497.07	125,668.15	195,935.59	289,095.04
60	Off-Road	Agriculture	2034	1,775,672.50	2,830,904.08	4,197,236.61	152,493.68	237,841.12	348,982.55
61	Off-Road	Agriculture	2035	2,090,610.02	3,355,811.10	4,962,672.29	180,450.63	282,296.65	412,345.67
62	Off-Road	Agriculture	2036	2,495,690.82	3,937,074.55	5,743,050.09	216,063.45	331,730.90	477,384.31
63	Off-Road	Agriculture	2037	2,998,839.81	4,576,483.19	6,533,296.44	259,952.60	386,287.68	543,711.90
64	Off-Road	Agriculture	2038	3,602,256.87	5,273,962.18	7,330,576.20	312,310.86	445,948.94	611,057.15
65	Off-Road	Agriculture	2039	4,307,193.04	6,029,125.81	8,132,477.85	373,245.95	510,656.54	679,160.49
66	Off-Road	Agriculture	2040	5,114,374.98	6,841,403.57	8,936,819.33	442,837.39	580,355.84	747,803.93
67	Off-Road	Agriculture	2041	5,922,870.91	7,654,398.72	9,741,612.15	512,310.29	650,111.49	816,745.73
68	Off-Road	Agriculture	2042	6,725,068.04	8,463,119.07	10,545,046.09	581,059.76	719,531.85	885,854.60
69	Off-Road	Agriculture	2043	7,520,133.63	9,266,375.25	11,345,477.23	648,972.97	788,477.90	954,959.61
70	Off-Road	Agriculture	2044	8,307,760.23	10,063,335.81	12,141,416.69	715,995.44	856,858.61	1,023,924.83
71	Off-Road	Agriculture	2045	9,087,681.38	10,853,256.07	12,931,519.91	782,069.68	924,580.72	1,092,613.13
72	Off-Road	CHC	2030	200,855.32	251,069.15	255,128.81	-	-	-
73	Off-Road	CHC	2031	327,573.73	410,675.85	433,747.50	-	-	-
74	Off-Road	CHC	2032	447,081.88	562,459.63	613,272.56	-	-	-
75	Off-Road	CHC	2033	557,720.24	704,146.47	789,756.66	-	-	-
76	Off-Road	CHC	2034	660,675.77	837,024.23	963,046.43	-	-	-
77	Off-Road	CHC	2035	1,804,775.53	2,306,876.03	2,823,390.45	-	-	-
78	Off-Road	CHC	2036	2,921,020.24	3,740,861.64	4,637,710.64	-	-	-
79	Off-Road	CHC	2037	3,827,319.64	4,905,172.85	6,111,131.39	-	-	-

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5				**Market Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**
80	Off-Road	CHC	2038	4,529,332.24	5,807,091.37	7,252,959.53	-	-	-
81	Off-Road	CHC	2039	5,065,830.83	6,496,415.38	8,126,101.07	-	-	-
82	Off-Road	CHC	2040	5,474,415.03	7,021,434.10	8,791,539.06	-	-	-
83	Off-Road	CHC	2041	5,864,370.48	7,464,443.09	9,298,286.38	-	-	-
84	Off-Road	CHC	2042	6,257,481.22	7,854,372.76	9,683,789.58	-	-	-
85	Off-Road	CHC	2043	6,656,295.08	8,205,390.87	9,976,260.46	-	-	-
86	Off-Road	CHC	2044	7,059,348.92	8,526,294.39	10,196,922.49	-	-	-
87	Off-Road	CHC	2045	7,464,690.56	8,823,254.70	10,361,794.01	-	-	-
88	Off-Road	CHE	2030	777,529.32	909,814.87	1,302,815.50	2,031,386.75	2,378,601.65	3,407,109.65
89	Off-Road	CHE	2031	1,053,692.51	1,214,814.96	1,711,029.20	2,756,831.63	3,180,183.79	4,480,525.32
90	Off-Road	CHE	2032	1,312,102.24	1,547,007.99	2,172,283.45	3,437,636.32	4,054,078.74	5,693,818.62
91	Off-Road	CHE	2033	1,550,773.19	1,901,847.52	2,679,678.15	4,067,918.33	4,988,169.93	7,028,854.77
92	Off-Road	CHE	2034	1,774,123.13	2,282,412.95	3,236,743.69	4,658,530.77	5,990,374.31	8,494,962.55
93	Off-Road	CHE	2035	1,984,028.95	2,688,858.92	3,842,988.30	5,213,840.98	7,060,943.93	10,090,855.83
94	Off-Road	CHE	2036	2,250,549.88	3,108,490.33	4,410,768.62	5,916,513.23	8,166,497.35	11,587,384.50
95	Off-Road	CHE	2037	2,581,043.64	3,545,613.06	4,942,845.59	6,785,799.28	9,318,348.35	12,991,858.10
96	Off-Road	CHE	2038	2,968,282.31	3,994,340.33	5,434,821.37	7,803,388.96	10,500,905.88	14,291,883.71
97	Off-Road	CHE	2039	3,413,803.56	4,460,643.42	5,897,656.60	8,974,160.81	11,729,836.07	15,515,489.12
98	Off-Road	CHE	2040	3,908,716.84	4,937,630.27	6,326,593.28	10,275,238.74	12,986,931.59	16,649,572.54
99	Off-Road	CHE	2041	4,405,721.58	5,419,708.04	6,766,369.78	11,584,056.86	14,258,454.00	17,811,807.91
100	Off-Road	CHE	2042	4,875,013.61	5,877,513.05	7,188,106.51	12,822,176.41	15,467,061.90	18,926,068.63
101	Off-Road	CHE	2043	5,318,183.20	6,312,648.36	7,593,297.12	13,992,888.74	16,616,522.96	19,996,357.25
102	Off-Road	CHE	2044	5,738,328.11	6,727,809.60	7,983,972.67	15,103,378.78	17,713,456.55	21,028,119.07
103	Off-Road	CHE	2045	6,138,331.05	7,125,522.34	8,362,057.07	16,160,600.06	18,764,205.79	22,026,495.84
104	Off-Road	C&M	2030	1,173,883.32	3,160,276.92	5,661,337.58	833,724.04	1,925,375.19	3,318,728.98
105	Off-Road	C&M	2031	1,794,730.61	4,114,842.63	7,031,562.01	1,232,589.00	2,479,441.77	4,069,845.22
106	Off-Road	C&M	2032	2,804,901.29	5,313,158.65	8,452,454.31	1,841,645.98	3,172,723.52	4,860,540.09
107	Off-Road	C&M	2033	4,198,833.49	6,754,696.58	9,930,005.07	2,648,763.63	4,001,358.77	5,697,958.33
108	Off-Road	C&M	2034	5,953,689.28	8,427,917.25	11,467,613.44	3,630,591.30	4,952,752.18	6,584,355.71

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5				**Market Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**	**Conservative Scenario**	**Moderate Scenario**	**Ambitious Scenario**
109	Off-Road	C&M	2035	8,050,205.18	10,321,448.03	13,064,458.32	4,768,351.16	6,015,401.77	7,518,518.06
110	Off-Road	C&M	2036	9,629,589.53	11,707,284.35	14,175,535.51	5,611,542.28	6,776,283.10	8,150,839.66
111	Off-Road	C&M	2037	11,332,434.50	13,336,200.76	15,680,823.77	6,502,247.41	7,639,723.76	8,959,772.55
112	Off-Road	C&M	2038	12,887,246.27	14,869,676.73	17,161,245.06	7,312,558.50	8,436,023.53	9,724,020.30
113	Off-Road	C&M	2039	14,340,791.02	16,332,073.70	18,611,654.23	8,083,123.92	9,193,252.23	10,453,827.53
114	Off-Road	C&M	2040	15,740,382.87	17,755,011.06	20,042,692.13	8,848,675.46	9,938,367.76	11,164,727.57
115	Off-Road	C&M	2041	17,049,886.23	19,102,226.89	21,417,396.20	9,560,586.73	10,645,885.26	11,858,543.63
116	Off-Road	C&M	2042	18,304,929.57	20,411,232.43	22,774,823.04	10,219,777.65	11,320,167.10	12,543,382.43
117	Off-Road	C&M	2043	19,511,471.02	21,685,134.48	24,114,448.30	10,835,214.92	11,966,465.79	13,219,837.22
118	Off-Road	C&M	2044	20,677,125.95	22,928,400.87	25,436,781.26	11,417,862.82	12,590,650.05	13,887,509.55
119	Off-Road	C&M	2045	21,810,043.95	24,145,993.52	26,742,749.07	11,978,186.01	13,198,705.61	14,546,855.48
120	Off-Road	GSE	2030	92,479.22	150,150.75	265,942.01	344,384.45	562,509.35	996,753.25
121	Off-Road	GSE	2031	133,965.78	204,555.23	349,763.30	504,628.77	776,390.55	1,330,280.26
122	Off-Road	GSE	2032	187,098.26	268,608.04	436,029.42	712,748.19	1,032,996.27	1,685,829.75
123	Off-Road	GSE	2033	253,726.30	343,952.58	525,578.08	978,157.99	1,340,610.10	2,067,365.23
124	Off-Road	GSE	2034	334,071.53	430,300.61	616,839.86	1,301,780.47	1,697,235.87	2,465,285.02
125	Off-Road	GSE	2035	428,607.47	527,787.73	709,072.04	1,686,938.75	2,104,296.65	2,875,668.10
126	Off-Road	GSE	2036	504,308.84	605,037.29	780,064.79	2,020,412.61	2,454,714.99	3,223,990.45
127	Off-Road	GSE	2037	582,136.82	685,600.20	856,978.74	2,366,769.35	2,820,592.57	3,592,247.98
128	Off-Road	GSE	2038	651,755.54	757,929.87	926,713.95	2,690,609.64	3,162,801.53	3,936,985.89
129	Off-Road	GSE	2039	714,209.23	823,042.41	990,075.32	2,992,235.45	3,481,622.21	4,258,389.45
130	Off-Road	GSE	2040	770,495.13	881,891.46	1,047,772.12	3,272,927.82	3,778,353.16	4,557,629.70
131	Off-Road	GSE	2041	811,971.10	924,856.24	1,088,949.77	3,478,466.42	3,993,255.47	4,768,769.54
132	Off-Road	GSE	2042	849,032.62	963,299.23	1,125,933.58	3,666,406.57	4,189,632.95	4,961,422.61
133	Off-Road	GSE	2043	882,526.88	998,071.77	1,159,470.18	3,839,981.54	4,370,892.49	5,138,995.20
134	Off-Road	GSE	2044	912,790.10	1,029,495.17	1,189,798.08	4,000,053.00	4,537,920.73	5,302,322.15
135	Off-Road	GSE	2045	940,254.44	1,058,009.84	1,217,319.22	4,147,358.58	4,691,481.00	5,452,133.04

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5				**Angeles Link Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Low Scenario**	**Medium Scenario**	**High Scenario**	**Low Scenario**	**Medium Scenario**	**High Scenario**
8	On-Road	MDV	2030	1,350,901.06	3,301,400.57	5,062,378.88	1,052,247.69	2,249,347.06	3,323,659.97
9	On-Road	MDV	2031	1,887,169.71	4,191,136.29	6,252,951.77	1,548,454.56	3,030,948.36	4,335,986.00
10	On-Road	MDV	2032	2,588,147.73	5,256,395.46	7,516,419.79	2,247,398.23	4,073,799.92	5,561,335.58
11	On-Road	MDV	2033	3,471,889.47	6,512,566.74	8,847,909.22	3,166,202.87	5,378,690.77	6,954,851.36
12	On-Road	MDV	2034	4,554,192.38	7,972,706.84	10,241,433.93	4,331,589.49	6,962,946.85	8,495,891.56
13	On-Road	MDV	2035	5,843,667.26	9,639,964.08	11,681,650.20	5,767,871.07	8,843,034.10	10,166,534.25
14	On-Road	MDV	2036	7,117,159.65	11,251,110.36	13,038,919.93	7,189,692.26	10,672,994.56	11,761,638.40
15	On-Road	MDV	2037	8,367,788.32	12,801,133.91	14,317,611.76	8,556,154.67	12,402,091.33	13,242,574.73
16	On-Road	MDV	2038	9,610,475.21	14,310,538.84	15,537,473.65	9,870,001.41	14,036,980.27	14,618,424.30
17	On-Road	MDV	2039	10,852,257.82	15,788,681.87	16,706,906.74	11,143,735.03	15,594,530.05	15,904,972.34
18	On-Road	MDV	2040	12,103,285.48	17,249,045.65	17,838,171.72	12,355,410.01	17,048,105.66	17,079,344.57
19	On-Road	MDV	2041	13,379,068.49	18,748,056.15	19,014,394.79	13,492,970.19	18,411,423.52	18,179,745.87
20	On-Road	MDV	2042	14,677,906.08	20,285,238.77	20,236,383.69	14,538,131.99	19,662,580.94	19,187,578.61
21	On-Road	MDV	2043	16,003,679.89	21,865,111.19	21,507,558.33	15,519,827.27	20,838,248.30	20,135,350.76
22	On-Road	MDV	2044	17,339,702.52	23,465,842.20	22,807,620.23	16,405,145.03	21,896,104.52	20,984,609.76
23	On-Road	MDV	2045	18,701,201.21	25,106,332.95	24,152,846.00	17,211,922.41	22,858,601.06	21,755,086.21
24	On-Road	HDV	2030	10,211,002.49	35,511,667.48	58,994,483.10	-	-	-
25	On-Road	HDV	2031	13,636,576.33	42,983,609.61	70,166,437.95	-	-	-
26	On-Road	HDV	2032	19,307,134.86	53,099,398.96	82,918,284.53	39.58	70.59	91.75
27	On-Road	HDV	2033	27,385,026.44	66,034,402.98	97,331,594.57	153.08	245.20	290.55
28	On-Road	HDV	2034	38,049,948.12	81,997,726.66	113,540,306.97	306.37	456.08	501.37
29	On-Road	HDV	2035	51,476,317.38	101,177,172.10	131,640,808.65	538.44	749.88	761.69
30	On-Road	HDV	2036	64,098,273.38	119,194,552.80	148,602,016.03	799.88	1,080.61	1,054.39
31	On-Road	HDV	2037	75,917,500.00	136,085,085.91	164,549,625.69	1,075.31	1,429.32	1,363.39
32	On-Road	HDV	2038	87,032,786.70	151,997,435.16	179,633,760.20	1,351.88	1,779.60	1,673.98
33	On-Road	HDV	2039	97,535,114.77	167,067,523.59	193,985,547.43	1,628.68	2,130.29	1,985.11
34	On-Road	HDV	2040	107,520,687.43	181,440,815.74	207,747,608.30	1,880.47	2,449.12	2,267.71
35	On-Road	HDV	2041	118,942,441.15	196,433,543.65	221,039,894.94	2,135.60	2,772.36	2,554.47
36	On-Road	HDV	2042	131,932,585.92	212,146,273.31	233,884,976.76	2,380.99	3,083.25	2,830.27

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5				**Angeles Link Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Low Scenario**	**Medium Scenario**	**High Scenario**	**Low Scenario**	**Medium Scenario**	**High Scenario**
37	On-Road	HDV	2043	146,464,559.48	228,608,575.11	246,360,471.26	2,627.35	3,395.49	3,107.44
38	On-Road	HDV	2044	162,476,887.04	245,807,361.83	258,507,946.63	2,864.31	3,695.82	3,374.02
39	On-Road	HDV	2045	179,903,180.55	263,716,284.84	270,351,406.83	3,077.59	3,965.97	3,613.60
40	On-Road	Bus	2030	736,822.50	1,764,095.33	2,659,851.62	11,183,556.80	26,799,082.73	40,411,464.72
41	On-Road	Bus	2031	956,696.64	2,058,489.01	3,008,075.17	14,597,087.70	31,434,796.50	45,943,750.64
42	On-Road	Bus	2032	1,208,181.94	2,369,717.88	3,319,029.49	18,443,490.99	36,232,818.29	50,779,950.12
43	On-Road	Bus	2033	1,485,071.84	2,691,210.39	3,589,601.99	22,680,383.65	41,178,618.81	54,980,021.19
44	On-Road	Bus	2034	1,792,254.86	3,031,767.97	3,833,276.45	27,267,645.92	46,256,199.85	58,602,683.42
45	On-Road	Bus	2035	2,129,926.25	3,392,720.41	4,053,931.97	32,168,460.00	51,450,375.87	61,702,131.93
46	On-Road	Bus	2036	2,431,238.72	3,711,870.60	4,242,703.79	39,451,964.15	59,752,055.51	67,671,542.60
47	On-Road	Bus	2037	2,697,776.02	3,992,807.89	4,406,289.03	46,414,014.30	67,700,013.75	73,406,167.46
48	On-Road	Bus	2038	2,929,950.12	4,235,608.97	4,544,187.50	52,922,075.57	75,155,505.98	78,828,401.89
49	On-Road	Bus	2039	3,131,324.73	4,444,300.04	4,659,242.09	59,003,101.32	82,148,639.80	83,959,011.13
50	On-Road	Bus	2040	3,303,392.82	4,620,280.67	4,751,953.40	64,694,709.73	88,720,117.55	88,823,631.89

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5				**Angeles Link Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Low Scenario**	**Medium Scenario**	**High Scenario**	**Low Scenario**	**Medium Scenario**	**High Scenario**
51	On-Road	Bus	2041	3,440,947.86	4,756,470.49	4,815,314.51	70,034,056.74	94,910,249.06	93,447,830.69
52	On-Road	Bus	2042	3,576,093.71	4,893,448.78	4,885,161.22	75,047,650.47	100,746,286.96	97,846,247.00
53	On-Road	Bus	2043	3,716,915.52	5,040,951.51	4,969,362.70	79,765,774.87	106,260,891.48	102,039,254.29
54	On-Road	Bus	2044	3,840,342.27	5,169,210.80	5,040,715.61	84,206,968.05	111,472,258.44	106,035,027.10
55	On-Road	Bus	2045	3,947,228.03	5,279,186.93	5,099,886.50	88,407,977.33	116,422,339.33	109,863,835.19
56	Off-Road	Agriculture	2030	172,821.58	327,077.65	406,775.32	14,393.10	27,082.82	33,595.67
57	Off-Road	Agriculture	2031	242,856.57	449,767.09	552,265.97	20,417.47	37,461.51	45,803.50
58	Off-Road	Agriculture	2032	317,148.37	583,309.35	710,768.56	26,882.21	48,777.63	59,064.54
59	Off-Road	Agriculture	2033	395,230.30	727,218.90	881,686.71	33,738.69	60,981.46	73,318.42
60	Off-Road	Agriculture	2034	476,722.79	881,068.40	1,064,476.01	40,940.66	74,023.81	88,506.70
61	Off-Road	Agriculture	2035	561,275.48	1,044,436.35	1,258,600.86	48,446.39	87,859.80	104,576.44
62	Off-Road	Agriculture	2036	670,029.35	1,225,344.23	1,456,515.23	58,007.53	103,245.32	121,071.12
63	Off-Road	Agriculture	2037	805,112.02	1,424,348.77	1,656,932.40	69,790.65	120,225.15	137,892.70
64	Off-Road	Agriculture	2038	967,114.12	1,641,426.67	1,859,133.34	83,847.50	138,793.65	154,972.36
65	Off-Road	Agriculture	2039	1,156,371.50	1,876,457.87	2,062,506.45	100,207.02	158,932.74	172,244.29
66	Off-Road	Agriculture	2040	1,373,079.27	2,129,264.84	2,266,498.34	118,890.55	180,625.40	189,653.20
67	Off-Road	Agriculture	2041	1,590,139.81	2,382,295.08	2,470,604.69	137,542.25	202,335.60	207,137.77
68	Off-Road	Agriculture	2042	1,805,509.29	2,633,994.86	2,674,366.41	155,999.73	223,941.45	224,664.72
69	Off-Road	Agriculture	2043	2,018,964.13	2,883,994.02	2,877,366.58	174,232.69	245,399.68	242,190.68
70	Off-Road	Agriculture	2044	2,230,421.78	3,132,033.78	3,079,227.60	192,226.52	266,681.96	259,681.20
71	Off-Road	Agriculture	2045	2,439,810.73	3,377,882.38	3,279,608.47	209,965.77	287,759.26	277,101.48
72	Off-Road	CHC	2030	53,924.53	78,140.79	64,704.12	-	-	-
73	Off-Road	CHC	2031	87,945.19	127,815.53	110,004.24	-	-	-
74	Off-Road	CHC	2032	120,030.08	175,055.53	155,534.22	-	-	-
75	Off-Road	CHC	2033	149,733.66	219,153.03	200,292.98	-	-	-
76	Off-Road	CHC	2034	177,374.60	260,508.86	244,241.61	-	-	-
77	Off-Road	CHC	2035	484,536.21	717,974.02	716,050.03	-	-	-
78	Off-Road	CHC	2036	784,219.45	1,164,276.46	1,176,186.19	-	-	-
79	Off-Road	CHC	2037	1,027,537.73	1,526,647.56	1,549,865.63	-	-	-

	B	C	D	K	L	M	N	O	P
1									
2	**Tab Contents**								
3	This tab calculates the volume of gasoline and diesel fuels displaced specifically by Angeles Link based on the percentages provided by the Demand Study as represented on the tab titled, "AL_Volumes". It also demonstrates the volume of gasoline and diesel displaced by market adoption of FCEVs, as provided by the Demand Study. Emission reductions were calculated by multiplying the displaced fuel volume by the emissions factor.								
4									
5				**Angeles Link Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Low Scenario**	**Medium Scenario**	**High Scenario**	**Low Scenario**	**Medium Scenario**	**High Scenario**
80	Off-Road	CHC	2038	1,216,010.21	1,807,353.61	1,839,448.70	-	-	-
81	Off-Road	CHC	2039	1,360,046.41	2,021,893.42	2,060,889.22	-	-	-
82	Off-Road	CHC	2040	1,469,740.84	2,185,296.13	2,229,653.30	-	-	-
83	Off-Road	CHC	2041	1,574,433.94	2,323,174.78	2,358,171.28	-	-	-
84	Off-Road	CHC	2042	1,679,974.15	2,444,533.43	2,455,940.10	-	-	-
85	Off-Road	CHC	2043	1,787,045.50	2,553,781.56	2,530,114.68	-	-	-
86	Off-Road	CHC	2044	1,895,255.18	2,653,657.06	2,586,077.56	-	-	-
87	Off-Road	CHC	2045	2,004,079.07	2,746,080.66	2,627,891.21	-	-	-
88	Off-Road	CHE	2030	208,746.80	283,163.65	330,411.64	545,375.54	740,297.34	864,089.12
89	Off-Road	CHE	2031	282,889.57	378,089.49	433,940.16	740,139.00	989,775.48	1,136,321.86
90	Off-Road	CHE	2032	352,265.99	481,478.65	550,920.49	922,917.70	1,261,759.70	1,444,029.47
91	Off-Road	CHE	2033	416,343.06	591,916.12	679,602.65	1,092,132.35	1,552,478.92	1,782,612.70
92	Off-Road	CHE	2034	476,306.82	710,360.32	820,882.01	1,250,696.72	1,864,397.16	2,154,437.48
93	Off-Road	CHE	2035	532,661.18	836,859.38	974,633.85	1,399,783.36	2,197,592.86	2,559,177.62
94	Off-Road	CHE	2036	604,215.26	967,462.17	1,118,630.62	1,588,432.94	2,541,676.65	2,938,717.54
95	Off-Road	CHE	2037	692,944.40	1,103,508.83	1,253,572.54	1,821,814.08	2,900,169.72	3,294,911.05
96	Off-Road	CHE	2038	796,908.11	1,243,167.19	1,378,344.26	2,095,010.96	3,268,219.66	3,624,615.14
97	Off-Road	CHE	2039	916,519.21	1,388,295.71	1,495,725.54	2,409,333.35	3,650,702.27	3,934,938.04
98	Off-Road	CHE	2040	1,049,390.80	1,536,749.35	1,604,509.69	2,758,639.60	4,041,950.83	4,222,556.94
99	Off-Road	CHE	2041	1,182,823.90	1,686,787.46	1,716,042.96	3,110,023.89	4,437,689.50	4,517,315.56
100	Off-Road	CHE	2042	1,308,816.85	1,829,271.11	1,823,001.10	3,442,427.42	4,813,847.15	4,799,907.16
101	Off-Road	CHE	2043	1,427,796.58	1,964,699.21	1,925,762.92	3,756,733.83	5,171,596.40	5,071,346.84
102	Off-Road	CHE	2044	1,540,594.78	2,093,910.74	2,024,843.53	4,054,872.09	5,512,997.42	5,333,015.61
103	Off-Road	CHE	2045	1,647,985.37	2,217,691.74	2,120,730.85	4,338,709.04	5,840,024.38	5,586,217.47
104	Off-Road	C&M	2030	315,157.74	983,579.83	1,435,791.83	223,833.65	599,238.69	841,674.59
105	Off-Road	C&M	2031	481,839.41	1,280,671.38	1,783,299.29	330,918.72	771,682.03	1,032,167.83
106	Off-Road	C&M	2032	753,044.48	1,653,625.87	2,143,656.81	494,434.99	987,453.61	1,232,698.75
107	Off-Road	C&M	2033	1,127,279.73	2,102,278.84	2,518,383.68	711,125.49	1,245,351.55	1,445,079.35
108	Off-Road	C&M	2034	1,598,413.76	2,623,038.93	2,908,341.98	974,721.19	1,541,455.78	1,669,881.72

	B	C	D	K	L	M	N	O	P
1									
2	**Tab Contents**								
3	This tab calculates the volume of gasoline and diesel fuels displaced specifically by Angeles Link based on the percentages provided by the Demand Study as represented on the tab titled, "AL_Volumes". It also demonstrates the volume of gasoline and diesel displaced by market adoption of FCEVs, as provided by the Demand Study. Emission reductions were calculated by multiplying the displaced fuel volume by the emissions factor.								
4									
5				**Angeles Link Displaced Volumes (gal)**					
6				**Diesel**	**Diesel**	**Diesel**	**Gasoline**	**Gasoline**	**Gasoline**
7	**On or Off Road**	**Subsector**	**Year**	**Low Scenario**	**Medium Scenario**	**High Scenario**	**Low Scenario**	**Medium Scenario**	**High Scenario**
109	Off-Road	C&M	2035	2,161,274.82	3,212,366.61	3,313,323.45	1,280,180.70	1,872,186.51	1,906,797.94
110	Off-Road	C&M	2036	2,585,299.25	3,643,683.45	3,595,107.67	1,506,556.01	2,108,997.25	2,067,163.26
111	Off-Road	C&M	2037	3,042,469.70	4,150,654.63	3,976,869.14	1,745,687.63	2,377,727.76	2,272,319.59
112	Off-Road	C&M	2038	3,459,897.02	4,627,921.67	4,352,324.02	1,963,235.50	2,625,561.86	2,466,143.16
113	Off-Road	C&M	2039	3,850,136.72	5,083,066.64	4,720,167.42	2,170,112.66	2,861,235.79	2,651,232.15
114	Off-Road	C&M	2040	4,225,891.44	5,525,930.52	5,083,098.00	2,375,643.73	3,093,139.71	2,831,526.02
115	Off-Road	C&M	2041	4,577,459.70	5,945,227.42	5,431,741.56	2,566,773.75	3,313,341.91	3,007,487.17
116	Off-Road	C&M	2042	4,914,406.84	6,352,632.05	5,776,003.37	2,743,749.71	3,523,200.11	3,181,171.55
117	Off-Road	C&M	2043	5,238,332.45	6,749,111.34	6,115,750.47	2,908,978.92	3,724,349.05	3,352,729.65
118	Off-Road	C&M	2044	5,551,281.08	7,136,055.83	6,451,112.01	3,065,405.03	3,918,615.26	3,522,060.38
119	Off-Road	C&M	2045	5,855,440.67	7,515,009.82	6,782,323.12	3,215,837.51	4,107,861.71	3,689,279.44
120	Off-Road	GSE	2030	24,828.31	46,731.74	67,446.49	92,458.44	175,071.00	252,790.12
121	Off-Road	GSE	2031	35,966.40	63,664.17	88,704.71	135,479.96	241,637.71	337,377.08
122	Off-Road	GSE	2032	50,231.11	83,599.46	110,582.96	191,354.71	321,501.66	427,549.24
123	Off-Road	GSE	2033	68,119.04	107,049.11	133,293.71	262,610.48	417,240.98	524,311.80
124	Off-Road	GSE	2034	89,689.69	133,923.39	156,438.94	349,494.86	528,234.39	625,229.65
125	Off-Road	GSE	2035	115,070.18	164,264.52	179,830.27	452,900.04	654,924.80	729,308.35
126	Off-Road	GSE	2036	135,394.06	188,307.06	197,834.99	542,429.27	763,986.26	817,647.61
127	Off-Road	GSE	2037	156,288.89	213,380.83	217,341.41	635,417.22	877,859.13	911,042.71
128	Off-Road	GSE	2038	174,979.74	235,892.15	235,027.20	722,360.08	984,365.56	998,472.91
129	Off-Road	GSE	2039	191,746.97	256,157.27	251,096.50	803,338.92	1,083,592.82	1,079,985.20
130	Off-Road	GSE	2040	206,858.30	274,472.99	265,729.19	878,697.66	1,175,945.03	1,155,876.58
131	Off-Road	GSE	2041	217,993.54	287,845.01	276,172.40	933,879.54	1,242,829.54	1,209,424.50
132	Off-Road	GSE	2042	227,943.61	299,809.71	285,551.99	984,336.68	1,303,948.53	1,258,283.93
133	Off-Road	GSE	2043	236,935.96	310,632.04	294,057.33	1,030,937.13	1,360,362.33	1,303,318.74
134	Off-Road	GSE	2044	245,060.87	320,412.01	301,748.90	1,073,912.23	1,412,346.89	1,344,740.66
135	Off-Road	GSE	2045	252,434.34	329,286.69	308,728.63	1,113,460.03	1,460,139.79	1,382,734.73

Tab Contents

This tab multiplies the volume of diesel and gasoline displaced by FCEVs for the full market in the geographic region of this study (as projected by the Demand Study) by the emissions factors (from the "Emissions_Factors" tab) as developed from the EMFAC model data to estimate the NOx emissions reductions associated with displacing that volume of fossil fuels.

$$\textbf{Emission Reduction}\left(\frac{\textbf{ton}}{\textbf{year}}\right) = \textbf{Emission Factor}\left(\frac{\textbf{ton}}{\textbf{gal}}\right) * \textbf{Fuel Displaced by FCEV}\left(\frac{\textbf{gal}}{\textbf{year}}\right)$$

Emission Reduction (ton/yr)	Shown in columns M through R
Emission Factor (ton/gal)	Shown on Tab "6. Emissions_Factors"
Fuel Displaced by FCEV (gal/yr)	Shown on Tab "12. Angeles_Link_Fuel_Disp"

Example Calculation: MDV Year 2030, Ambitious Diesel Displacement

$$\mathbf{307.56}\left(\frac{\textbf{ton}}{\textbf{year}}\right) = \mathbf{0.000015408}\left(\frac{\textbf{ton}}{\textbf{gal}}\right) * \mathbf{19,960,996.51}\left(\frac{\textbf{gal}}{\textbf{year}}\right)$$

Emission Reduction (ton/yr)	307.56	"10. Calcs_CURRENT" cell O20
Emission Factor (ton/gal)	1.5408E-05	"6. Emissions_Factors" cell E74
Fuel Displaced by FCEV (gal/yr)	19,960,996.51	"12. Angeles_Link_Fuel_Disp" cell G9

15		Subsector	Year	Conservative NOx Reductions from Diesel (ton/yr)	Moderate NOx Reductions from Diesel (ton/yr)	Ambitious NOx Reductions from Diesel (ton/yr)	Conservative NOx Reductions from Gasoline (ton/yr)	Moderate NOx Reductions from Gasoline (ton/yr)	Ambitious NOx Reductions from Gasoline (ton/yr)
21	On-Road	MDV	2030	77.52954478	163.4408021	307.5593648	14.48763833	26.71496797	48.44253041
22	On-Road	MDV	2031	102.1743462	195.7407576	358.3823448	20.36569756	34.38728857	60.36974116
23	On-Road	MDV	2032	132.6674066	232.4244336	407.8653602	28.43994252	44.46998136	74.50036483
24	On-Road	MDV	2033	168.9072719	273.3085479	455.6734572	39.13270456	57.34509461	90.99543285
25	On-Road	MDV	2034	211.2304363	318.9844342	502.8477474	52.32500669	72.55605365	108.6429574
26	On-Road	MDV	2035	258.7768136	368.2424648	547.6141943	68.2020322	90.19898333	127.2580654
27	On-Road	MDV	2036	301.2604665	410.8179326	584.2620418	83.24978932	106.6050312	144.1687996
28	On-Road	MDV	2037	338.0285687	446.0768996	612.2713254	97.05458345	121.3531127	159.0158713
29	On-Road	MDV	2038	371.3606072	477.0078524	635.5679557	109.7122949	134.5954398	172.0161666
30	On-Road	MDV	2039	401.1423321	503.434342	653.7399987	121.0681311	146.1470066	182.9205915
31	On-Road	MDV	2040	428.4353462	526.7028388	668.4408358	131.0092224	155.9334928	191.7107758
32	On-Road	MDV	2041	454.2374295	549.0752368	683.3924315	141.0274346	165.9976671	201.1474217

	A	C	D	M	N	O	P	Q	R	S
15		Subsector	Year	Conservative NOx Reductions from Diesel (ton/yr)	Moderate NOx Reductions from Diesel (ton/yr)	Ambitious NOx Reductions from Diesel (ton/yr)	Conservative NOx Reductions from Gasoline (ton/yr)	Moderate NOx Reductions from Gasoline (ton/yr)	Ambitious NOx Reductions from Gasoline (ton/yr)	
33	On-Road	MDV	2042	478.5161041	570.4678178	698.386726	150.0916095	175.1083687	209.7000802	
34	On-Road	MDV	2043	504.4967144	594.5778795	717.7285348	158.7921111	183.9169767	218.0880433	
35	On-Road	MDV	2044	524.2832341	612.0389266	730.0202677	166.3972192	191.5805515	225.318839	
36	On-Road	MDV	2045	545.4104596	631.6199151	745.6806765	172.7514042	197.9066677	231.1445364	
42	On-Road	HDV	2030	631.1301011	1893.390303	3860.046436	0	0	0	
43	On-Road	HDV	2031	841.9541164	2289.309611	4586.095815	0	0	0	
44	On-Road	HDV	2032	1190.133645	2823.488867	5410.766952	0.002074361	0.003191324	0.005090162	
45	On-Road	HDV	2033	1683.913293	3502.639072	6335.64765	0.007934978	0.010963959	0.015943036	
46	On-Road	HDV	2034	2333.902251	4338.593661	7372.406531	0.015736443	0.020207834	0.027261545	
47	On-Road	HDV	2035	3150.107868	5340.956783	8527.841391	0.027529688	0.033072683	0.041225787	
48	On-Road	HDV	2036	3913.622435	6277.801421	9604.790858	0.040343084	0.047014374	0.056295833	
49	On-Road	HDV	2037	4630.468706	7159.985763	10624.55065	0.05321927	0.061021359	0.071431145	
50	On-Road	HDV	2038	5300.926486	7985.897343	11582.10426	0.065690666	0.074594342	0.086108623	
51	On-Road	HDV	2039	5933.309465	8766.911207	12492.11557	0.077756894	0.087732808	0.100327531	
52	On-Road	HDV	2040	6531.429276	9507.574945	13359.27366	0.088364389	0.099275193	0.112805557	
53	On-Road	HDV	2041	7214.726708	10278.20464	14193.33064	0.098809092	0.110648431	0.125114759	
54	On-Road	HDV	2042	7992.925792	11086.83757	14999.84081	0.107988669	0.12062799	0.135887367	
55	On-Road	HDV	2043	8863.855662	11934.41715	15783.08041	0.118854867	0.132501313	0.148809952	
56	On-Road	HDV	2044	9821.732151	12817.69561	16542.495	0.130790594	0.145574362	0.163092608	
57	On-Road	HDV	2045	10866.387	13740.47819	17286.44059	0.143149501	0.159127933	0.177929931	
63	On-Road	Bus	2030	70.31976945	145.2296132	268.7216058	136.6712453	282.5112225	522.7961886	
64	On-Road	Bus	2031	85.85714661	159.356332	285.7732029	174.4425316	324.0525089	581.2235824	
65	On-Road	Bus	2032	101.2855843	171.3683111	294.548644	211.9323237	359.149081	617.6990868	
66	On-Road	Bus	2033	115.5283358	180.595647	295.6092162	244.2098854	382.4751208	626.6836489	
67	On-Road	Bus	2034	129.0812973	188.3554048	292.2565904	272.2172931	398.3424475	619.3215406	
68	On-Road	Bus	2035	142.4942251	195.7939834	287.1043501	303.9213189	419.3127018	617.1087186	
69	On-Road	Bus	2036	150.7212799	198.4990207	278.4327382	363.8617144	475.3780809	660.7001804	
70	On-Road	Bus	2037	155.4424501	198.454399	268.7616765	435.094414	547.4465261	728.4463026	
71	On-Road	Bus	2038	157.7565099	196.7258789	259.0084445	494.86258	606.2156181	780.2990639	
72	On-Road	Bus	2039	158.1124847	193.5797826	249.0485112	548.2253427	658.4203063	825.813922	
73	On-Road	Bus	2040	157.5761802	190.1153914	239.9568423	593.1280243	701.6497191	862.0626317	
74	On-Road	Bus	2041	156.2732044	186.3415931	231.5057071	623.2517477	728.5945292	880.3473529	
75	On-Road	Bus	2042	154.6731821	182.5743441	223.674074	656.2693175	759.963301	905.7738739	
76	On-Road	Bus	2043	154.853943	181.1634863	219.1648444	707.3371146	812.8340437	957.8726025	
77	On-Road	Bus	2044	154.0569032	178.8768119	214.0592721	748.7190102	854.9804836	998.0465523	
78	On-Road	Bus	2045	152.8904943	176.3899673	209.112212	787.6662476	894.7581736	1036.182264	
84	Off-Road	Agriculture	2030	29.96876135	48.92606276	74.67170059	2.274225919	3.69140544	5.619443458	
85	Off-Road	Agriculture	2031	39.86861102	63.69238189	95.97544793	3.171357225	5.019346388	7.531344803	
86	Off-Road	Agriculture	2032	49.34049839	78.28139558	117.0576714	4.091365192	6.403871873	9.516139155	

	A	C	D	M	N	O	P	Q	R	S
15		Subsector	Year	Conservative NOx Reductions from Diesel (ton/yr)	Moderate NOx Reductions from Diesel (ton/yr)	Ambitious NOx Reductions from Diesel (ton/yr)	Conservative NOx Reductions from Gasoline (ton/yr)	Moderate NOx Reductions from Gasoline (ton/yr)	Ambitious NOx Reductions from Gasoline (ton/yr)	
87	Off-Road	Agriculture	2033	58.30143654	92.53643296	137.6809773	5.027928674	7.83929863	11.56656827	
88	Off-Road	Agriculture	2034	66.7467348	106.4124178	157.7722463	5.921007963	9.234869053	13.55025641	
89	Off-Road	Agriculture	2035	74.5541724	119.6730701	176.9760609	6.839394386	10.69953643	15.62862199	
90	Off-Road	Agriculture	2036	84.52361343	133.3401413	194.5046001	8.069366711	12.38922266	17.82897109	
91	Off-Road	Agriculture	2037	96.38611964	147.0933709	209.9875729	9.545018603	14.18382851	19.96417871	
92	Off-Road	Agriculture	2038	110.112585	161.2127148	224.0786051	11.21005418	16.00684585	21.93322288	
93	Off-Road	Agriculture	2039	125.2375773	175.3051471	236.463008	13.172282	18.02166111	23.96836082	
94	Off-Road	Agriculture	2040	141.5433259	189.3398546	247.3317144	15.52301632	20.34352406	26.21317186	
95	Off-Road	Agriculture	2041	156.3828951	202.1008141	257.2099804	17.90007651	22.7148382	28.53702421	
96	Off-Road	Agriculture	2042	169.2496562	212.9911525	265.3869691	20.32040341	25.16294945	30.97946895	
97	Off-Road	Agriculture	2043	180.8363709	222.8281776	272.8242646	22.86841659	27.78427142	33.65073008	
98	Off-Road	Agriculture	2044	190.9898025	231.3493008	279.1229783	25.2760696	30.24882108	36.14659253	
99	Off-Road	Agriculture	2045	200.1556368	239.0423134	284.8159496	27.52333782	32.53872131	38.45227712	
105	Off-Road	CHC	2030	13.04474663	16.30593329	16.56959235	0	0	0	
106	Off-Road	CHC	2031	19.18730263	24.05492613	25.40632462	0	0	0	
107	Off-Road	CHC	2032	23.81696172	29.96336952	32.67027773	0	0	0	
108	Off-Road	CHC	2033	28.1153727	35.49690144	39.81261756	0	0	0	
109	Off-Road	CHC	2034	32.62699074	41.33583076	47.55934514	0	0	0	
110	Off-Road	CHC	2035	89.33086918	114.1833083	139.749192	0	0	0	
111	Off-Road	CHC	2036	144.885156	185.5500054	230.0344995	0	0	0	
112	Off-Road	CHC	2037	190.2033266	243.7685594	303.7001427	0	0	0	
113	Off-Road	CHC	2038	225.4686613	289.0750881	361.0499273	0	0	0	
114	Off-Road	CHC	2039	252.5187995	323.8298052	405.0654977	0	0	0	
115	Off-Road	CHC	2040	273.1547643	350.3457753	438.668016	0	0	0	
116	Off-Road	CHC	2041	292.7897023	372.6763303	464.234398	0	0	0	
117	Off-Road	CHC	2042	312.498817	392.2476331	483.6087688	0	0	0	
118	Off-Road	CHC	2043	332.4409671	409.8087666	498.2528024	0	0	0	
119	Off-Road	CHC	2044	352.5556633	425.8173678	509.2513222	0	0	0	
120	Off-Road	CHC	2045	372.7215424	440.5563867	517.3776215	0	0	0	
126	Off-Road	CHE	2030	15.31700751	17.9229783	25.66492887	23.16052939	27.11924423	38.84561282	
127	Off-Road	CHE	2031	20.59730407	23.74688324	33.44674881	31.43828665	36.26609928	51.09490114	
128	Off-Road	CHE	2032	24.73372041	29.1618001	40.94852527	28.04232522	33.07091973	46.44700566	
129	Off-Road	CHE	2033	23.66012342	29.0164593	40.88380953	42.28551634	51.85141977	73.06409055	
130	Off-Road	CHE	2034	18.68853992	24.04284385	34.09572452	53.03792538	68.20112208	96.71615628	
131	Off-Road	CHE	2035	17.78813579	24.10740408	34.4549397	59.50759667	80.58930175	115.1708657	
132	Off-Road	CHE	2036	16.21923732	22.40223276	31.78747717	67.59296529	93.29781766	132.3796041	
133	Off-Road	CHE	2037	12.23492017	16.80726823	23.43056904	77.63521264	106.6096897	148.63771	
134	Off-Road	CHE	2038	14.51550745	19.53314096	26.57738779	89.17351502	119.9994892	163.321028	
135	Off-Road	CHE	2039	15.74375265	20.57156059	27.19876673	90.57202859	118.3837765	156.5906111	

	A	C	D	M	N	O	P	Q	R	S
15		Subsector	Year	Conservative NOx Reductions from Diesel (ton/yr)	Moderate NOx Reductions from Diesel (ton/yr)	Ambitious NOx Reductions from Diesel (ton/yr)	Conservative NOx Reductions from Gasoline (ton/yr)	Moderate NOx Reductions from Gasoline (ton/yr)	Ambitious NOx Reductions from Gasoline (ton/yr)	
136	Off-Road	CHE	2040	18.59964276	23.49573092	30.10511628	106.9549512	135.1809598	173.3053862	
137	Off-Road	CHE	2041	21.78549549	26.79947494	33.45847341	130.3567137	160.4520098	200.4383069	
138	Off-Road	CHE	2042	22.08489623	26.62644173	32.56372165	145.3628231	175.3474379	214.5616062	
139	Off-Road	CHE	2043	25.21197653	29.92644975	35.99763703	159.0039653	188.8168404	227.2225666	
140	Off-Road	CHE	2044	28.22616744	33.09331162	39.27223142	170.2116441	199.6266269	236.9821198	
141	Off-Road	CHE	2045	28.55385953	33.14600699	38.89803284	184.0166349	213.66323	250.8100956	
147	Off-Road	C&M	2030	27.47728579	73.97313744	132.515888	62.43412542	144.1833397	248.5258093	
148	Off-Road	C&M	2031	40.14321143	92.0377669	157.2767958	92.28207329	185.6320535	304.703153	
149	Off-Road	C&M	2032	58.54791995	110.9038625	176.431741	137.9096517	237.5859423	363.9762458	
150	Off-Road	C&M	2033	84.54897678	136.0146065	199.9535752	198.2904023	299.5476953	426.557673	
151	Off-Road	C&M	2034	115.9513536	164.138296	223.3380412	271.9321941	370.9623735	493.169885	
152	Off-Road	C&M	2035	152.0984452	195.0107064	246.8364164	357.5937947	451.1140793	563.8375431	
153	Off-Road	C&M	2036	159.9040672	194.4052108	235.3917345	421.4410683	508.9160603	612.1487471	
154	Off-Road	C&M	2037	184.503311	217.1266197	255.2994155	488.9857694	574.5269234	673.7979958	
155	Off-Road	C&M	2038	206.1736506	237.8891092	274.550239	550.6792547	635.2828699	732.2767065	
156	Off-Road	C&M	2039	225.8999843	257.2672028	293.1757665	609.473441	693.1779259	788.2262232	
157	Off-Road	C&M	2040	244.7224854	276.0447743	311.6123334	668.1617418	750.4441933	843.0463812	
158	Off-Road	C&M	2041	261.6336046	293.1271452	328.6538393	722.5689878	804.593563	896.243726	
159	Off-Road	C&M	2042	277.7113758	309.6669352	345.5259095	772.8934763	856.1128827	948.6212697	
160	Off-Road	C&M	2043	293.1105871	325.7643922	362.2586985	819.5688258	905.1359282	999.9401536	
161	Off-Road	C&M	2044	307.742939	341.2492377	378.5821028	863.5638526	952.2649232	1050.349916	
162	Off-Road	C&M	2045	322.0485189	356.5413013	394.8851616	905.167953	997.4002185	1099.277251	
168	Off-Road	GSE	2030	2.245087016	3.645159374	6.45618473	11.38389658	18.59418541	32.94845626	
169	Off-Road	GSE	2031	3.148061848	4.806843482	8.219087942	16.65402921	25.62285719	43.90262253	
170	Off-Road	GSE	2032	4.218388581	6.056139167	9.830885516	23.39122338	33.90123872	55.32616019	
171	Off-Road	GSE	2033	5.565014163	7.543959776	11.52757694	32.01320403	43.87555482	67.66083317	
172	Off-Road	GSE	2034	7.159333085	9.221574268	13.21921106	42.56220101	55.49176365	80.60341892	
173	Off-Road	GSE	2035	8.976896249	11.05416037	14.85103875	55.11400134	68.74950791	93.95099607	
174	Off-Road	GSE	2036	9.793041793	11.74906121	15.14787465	65.98450996	80.16836022	105.2920721	
175	Off-Road	GSE	2037	11.13311721	13.11180988	16.38935113	77.22730431	92.03548347	117.2144757	
176	Off-Road	GSE	2038	12.3036899	14.30802426	17.49429086	87.78048221	103.1856273	128.4432031	
177	Off-Road	GSE	2039	13.31283541	15.3414822	18.45496982	97.64819337	113.6187726	138.9676861	
178	Off-Road	GSE	2040	14.18916067	16.24059537	19.29539374	106.8647521	123.3674548	148.8117047	
179	Off-Road	GSE	2041	14.78419329	16.83958136	19.82736067	113.575823	130.3842618	155.7056643	
180	Off-Road	GSE	2042	15.31432858	17.37539945	20.30889775	119.712282	136.7962096	161.9960066	
181	Off-Road	GSE	2043	15.78170138	17.84792177	20.73411317	125.3796915	142.7145278	167.7939403	
182	Off-Road	GSE	2044	16.18045386	18.24921081	21.09079945	130.6062023	148.168185	173.1267461	
183	Off-Road	GSE	2045	16.50908468	18.57664616	21.37381667	135.4158841	153.1820881	178.0182258	

Appendix D.3:

Power Generation

NOx Results, Calculations, and Data

Tab Contents

This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV97
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV98
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	675560.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV99
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV100
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV101
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV102
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV103
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV107
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	714330.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV108
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	885595.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV109
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV110
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV111
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV112
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV113
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV117
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1841603.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV118
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1058278.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV119
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV120
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV121
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV122
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV123
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV127
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3381816.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV128
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1193608.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV129
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV130
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV131
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV132
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV133
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV137
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5334970.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV138
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1291586.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV139
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV140
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV141
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV142
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV143
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV147
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7701066.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV148
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1352212.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV149
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV150

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV151
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV152
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV153
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV157
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10565211.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV158
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1398194.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV159
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV160
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV161
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV162
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV163
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV167
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	13874525.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV168
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1403909.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV169
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV170
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV171
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV172
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV173
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV177
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17629009.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV178
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1369357.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV179
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV180
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV181
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV182
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV183
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV187
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21828661.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV188
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1294537.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV189
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV190
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV191
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV192
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV193
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV197
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	26473483.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV198
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1179449.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV199
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV200
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV201
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV202
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV203
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV207

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	31830315.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV208
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1032752.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV209
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV210
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV211
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV212
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV213
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV217
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	37680174.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV218
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	841458.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV219
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV220
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV221
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV222
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV223
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV227
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	44023060.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV228
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	605568.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV229
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV230
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV231
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV232
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV233
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV237
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50858971.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV238
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	325082.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV239
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV240
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV241
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV242
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV243
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV247
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	58187910.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV248
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV249
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV250
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV251
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV252
1-SoCal_PowerPeakerBaseload (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV253
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV397
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV398
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	675560.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV399
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV400
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV401

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV402
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV403
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV407
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	714330.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV408
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	885595.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV409
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV410
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV411
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV412
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV413
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV417
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1841603.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV418
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1058278.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV419
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV420
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV421
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV422
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV423
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV427
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3381816.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV428
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1193608.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV429
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV430
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV431
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV432
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV433
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV437
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5334970.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV438
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1291586.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV439
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV440
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV441
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV442
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV443
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV447
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7701066.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV448
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1352212.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV449
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV450
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV451
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV452
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV453
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV457
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10565211.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV458

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1398194.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV459
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV460
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV461
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV462
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV463
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV467
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	13874525.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV468
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1403909.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV469
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV470
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV471
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV472
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV473
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV477
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17629009.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV478
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1369357.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV479
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV480
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV481
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV482
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV483
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV487
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21828661.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV488
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1294537.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV489
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV490
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV491
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV492
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV493
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV497
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	26473483.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV498
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1179449.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV499
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV500
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV501
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV502
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV503
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV507
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	31830315.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV508
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1032752.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV509
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV510
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV511
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV512

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV513
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV517
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	37680174.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV518
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	841458.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV519
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV520
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV521
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV522
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV523
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV527
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	44023060.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV528
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	605568.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV529
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV530
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV531
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV532
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV533
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV537
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50858971.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV538
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	325082.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV539
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV540
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV541
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV542
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV543
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV547
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	58187910.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV548
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV549
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV550
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV551
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV552
2-SoCal_PowerPeakerBaseload (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV553
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV697
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV698
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	675560.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV699
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV700
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV701
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV702
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV703
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV707
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	714330.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV708
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	885595.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV709

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV710
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV711
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV712
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV713
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV717
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1841603.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV718
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1058278.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV719
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV720
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV721
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV722
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV723
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV727
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3381816.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV728
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1193608.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV729
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV730
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV731
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV732
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV733
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV737
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5334970.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV738
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1291586.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV739
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV740
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV741
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV742
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV743
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV747
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7701066.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV748
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1352212.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV749
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV750
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV751
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV752
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV753
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV757
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10565211.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV758
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1398194.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV759
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV760
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV761
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV762
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV763

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV767
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	13874525.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV768
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1403909.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV769
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV770
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV771
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV772
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV773
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV777
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17629009.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV778
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1369357.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV779
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV780
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV781
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV782
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV783
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV787
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21828661.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV788
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1294537.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV789
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV790
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV791
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV792
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV793
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV797
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	26473483.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV798
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1179449.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV799
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV800
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV801
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV802
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV803
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV807
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	31830315.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV808
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1032752.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV809
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV810
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV811
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV812
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV813
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV817
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	37680174.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV818
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	841458.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV819
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV820

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV821
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV822
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV823
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV827
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	44023060.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV828
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	605568.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV829
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV830
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV831
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV832
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV833
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV837
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50858971.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV838
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	325082.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV839
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV840
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV841
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV842
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV843
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV847
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	58187910.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV848
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV849
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV850
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV851
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV852
3-SoCal_PowerPeakerBaseload (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV853
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV997
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV998
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	675560.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV999
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1000
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1001
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1002
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1003
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1007
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	714330.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1008
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	885595.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1009
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1010
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1011
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1012
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1013
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1017

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Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1841603.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1018
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1058278.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1019
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1020
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1021
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1022
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1023
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1027
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3381816.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1028
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1193608.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1029
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1030
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1031
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1032
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1033
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1037
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5334970.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1038
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1291586.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1039
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1040
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1041
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1042
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1043
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1047
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7701066.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1048
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1352212.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1049
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1050
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1051
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1052
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1053
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1057
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10565211.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1058
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1398194.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1059
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1060
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1061
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1062
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1063
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1067
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	13874525.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1068
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1403909.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1069
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1070
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1071

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1072
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1073
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1077
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17629009.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1078
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1369357.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1079
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1080
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1081
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1082
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1083
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1087
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21828661.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1088
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1294537.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1089
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1090
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1091
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1092
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1093
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1097
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	26473483.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1098
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1179449.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1099
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1100
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1101
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1102
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1103
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1107
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	31830315.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1108
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1032752.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1109
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1110
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1111
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1112
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1113
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1117
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	37680174.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1118
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	841458.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1119
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1120
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1121
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1122
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1123
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1127
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	44023060.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1128

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	605568.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1129
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1130
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1131
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1132
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1133
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1137
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50858971.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1138
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	325082.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1139
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1140
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1141
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1142
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1143
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1147
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	58187910.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1148
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1149
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1150
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1151
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1152
4-SoCal_PowerPeakerBaseload (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1153
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1297
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1298
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1569681.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1299
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1300
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1301
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1302
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1303
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1307
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1659764.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1308
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2057702.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1309
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1310
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1311
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1312
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1313
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1317
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4279008.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1318
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2458935.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1319
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1320
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1321
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1322

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1323
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1327
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7857730.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1328
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2773378.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1329
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1330
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1331
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1332
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1333
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1337
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12395930.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1338
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3001032.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1339
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1340
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1341
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1342
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1343
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1347
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17893609.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1348
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3141898.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1349
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1350
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1351
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1352
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1353
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1357
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	24548518.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1358
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3248738.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1359
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1360
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1361
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1362
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1363
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1367
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	32237788.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1368
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3262017.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1369
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1370
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1371
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1372
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1373
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1377
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	40961420.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1378
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3181733.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1379

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1380
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1381
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1382
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1383
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1387
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50719412.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1388
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3007887.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1389
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1390
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1391
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1392
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1393
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1397
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	61511765.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1398
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2740478.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1399
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1400
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1401
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1402
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1403
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1407
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	73958492.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1408
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2399624.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1409
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1410
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1411
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1412
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1413
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1417
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	87550777.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1418
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1955149.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1419
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1420
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1421
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1422
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1423
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1427
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	102288621.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1428
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1407053.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1429
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1430
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1431
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1432
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1433

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1437
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	118172024.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1438
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	755337.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1439
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1440
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1441
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1442
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1443
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1447
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	135200986.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1448
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1449
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1450
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1451
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1452
5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1453
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1597
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1598
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1569681.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1599
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1600
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1601
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1602
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1603
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1607
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1659764.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1608
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2057702.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1609
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1610
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1611
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1612
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1613
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1617
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4279008.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1618
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2458935.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1619
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1620
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1621
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1622
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1623
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1627
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7857730.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1628
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2773378.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1629
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1630

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	Fuel Type	Parameter	Value	Reference
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1631
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	O2 Percent (scf/100-scf)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1632
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2033_H2-NG	NG NOx EF (lb/MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1633
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1637
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	12395930.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1638
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3001032.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1639
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1640
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1641
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	O2 Percent (scf/100-scf)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1642
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2034_H2-NG	NG NOx EF (lb/MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1643
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1647
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	17893609.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1648
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3141898.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1649
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1650
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1651
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	O2 Percent (scf/100-scf)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1652
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2035_H2-NG	NG NOx EF (lb/MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1653
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1657
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	24548518.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1658
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3248738.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1659
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1660
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1661
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	O2 Percent (scf/100-scf)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1662
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2036_H2-NG	NG NOx EF (lb/MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1663
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1667
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	32237788.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1668
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3262017.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1669
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1670
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1671
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	O2 Percent (scf/100-scf)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1672
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2037_H2-NG	NG NOx EF (lb/MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1673
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1677
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	40961420.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1678
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3181733.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1679
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1680
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1681
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	O2 Percent (scf/100-scf)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1682
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2038_H2-NG	NG NOx EF (lb/MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1683
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1687

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50719412.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1688
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3007887.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1689
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1690
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1691
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1692
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1693
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1697
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	61511765.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1698
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2740478.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1699
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1700
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1701
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1702
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1703
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1707
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	73958492.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1708
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2399624.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1709
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1710
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1711
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1712
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1713
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1717
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	87550777.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1718
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1955149.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1719
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1720
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1721
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1722
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1723
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1727
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	102288621.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1728
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1407053.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1729
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1730
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1731
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1732
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1733
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1737
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	118172024.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1738
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	755337.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1739
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1740
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1741

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1742
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1743
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1747
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	135200986.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1748
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1749
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1750
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1751
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1752
6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1753
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1897
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1898
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1569681.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1899
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1900
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1901
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1902
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1903
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1907
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1659764.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1908
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2057702.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1909
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1910
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1911
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1912
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1913
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1917
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4279008.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1918
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2458935.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1919
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1920
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1921
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1922
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1923
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1927
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7857730.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1928
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2773378.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1929
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1930
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1931
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1932
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1933
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1937
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12395930.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1938

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
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Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3001032.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1939
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1940
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1941
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1942
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1943
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1947
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17893609.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1948
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3141898.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1949
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1950
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1951
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1952
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1953
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1957
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	24548518.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1958
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3248738.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1959
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1960
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1961
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1962
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1963
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1967
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	32237788.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1968
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3262017.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1969
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1970
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1971
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1972
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1973
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1977
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	40961420.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1978
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3181733.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1979
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1980
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1981
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1982
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1983
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1987
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	50719412.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1988
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3007887.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1989
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1990
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1991
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1992

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1993
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1997
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	61511765.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1998
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2740478.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1999
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2000
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2001
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2002
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2003
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2007
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	73958492.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2008
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2399624.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2009
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2010
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2011
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2012
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2013
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2017
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	87550777.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2018
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1955149.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2019
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2020
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2021
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2022
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2023
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2027
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	102288621.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2028
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1407053.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2029
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2030
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2031
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2032
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2033
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2037
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	118172024.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2038
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	755337.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2039
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2040
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2041
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2042
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2043
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2047
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	135200986.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2048
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2049

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	**Value**	**Reference**
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2050
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2051
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2052
7-SoCal_PowerPeakerBaseload (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2053
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2197
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2198
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1569681.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2199
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2200
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2201
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2202
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2203
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2207
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1659764.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2208
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2057702.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2209
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2210
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2211
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2212
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2213
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2217
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4279008.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2218
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2458935.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2219
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2220
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2221
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2222
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2223
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2227
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7857730.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2228
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2773378.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2229
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2230
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2231
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2232
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2233
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2237
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12395930.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2238
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3001032.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2239
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2240
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2241
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2242
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2243

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	Fuel Type	Parameter	Value	Reference
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2247
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	17893609.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2248
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3141898.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2249
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2250
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2251
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2252
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2035_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2253
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2257
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	24548518.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2258
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3248738.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2259
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2260
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2261
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2262
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2036_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2263
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2267
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	32237788.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2268
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3262017.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2269
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2270
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2271
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2272
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2037_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2273
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2277
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	40961420.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2278
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3181733.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2279
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2280
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2281
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2282
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2038_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2283
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2287
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	50719412.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2288
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	3007887.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2289
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2290
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	BSL NG Consumption (MMBtu/yr)	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2291
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2292
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2039_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2293
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2297
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	61511765.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2298
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	2740478.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2299
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	Blend % H2 (scf/100-scf)	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2300

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2301
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2302
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2303
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2307
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	73958492.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2308
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2399624.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2309
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2310
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2311
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2312
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2313
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2317
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	87550777.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2318
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1955149.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2319
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2320
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2321
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2322
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2323
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2327
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	102288621.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2328
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1407053.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2329
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2330
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2331
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2332
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2333
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2337
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	118172024.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2338
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	755337.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2339
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2340
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2341
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2342
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2343
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2347
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	135200986.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2348
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2349
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2350
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2351
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2352
8-SoCal_PowerPeakerBaseload (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2353
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2497

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Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2498
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2552054.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2499
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2500
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2501
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2502
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2503
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2507
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2698514.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2508
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3345499.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2509
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2510
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2511
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2512
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2513
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2517
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6956989.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2518
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3997839.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2519
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2520
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2521
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2522
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2523
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2527
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12775425.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2528
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4509074.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2529
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2530
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2531
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2532
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2533
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2537
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	20153820.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2538
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4879204.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2539
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2540
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2541
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2542
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2543
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2547
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29092176.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2548
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5108228.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2549
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2550
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2551

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2552
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2553
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2557
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39912005.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2558
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5281935.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2559
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2560
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2561
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2562
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2563
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2567
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	52413541.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2568
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5303524.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2569
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2570
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2571
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2572
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2573
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2577
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	66596785.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2578
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5172995.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2579
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2580
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2581
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2582
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2583
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2587
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	82461736.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2588
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4890348.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2589
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2590
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2591
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2592
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2593
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2597
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	100008394.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2598
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4455584.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2599
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2600
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2601
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2602
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2603
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2607
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	120244801.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2608

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3901409.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2609
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2610
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2611
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2612
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2613
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2617
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	142343706.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2618
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3178763.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2619
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2620
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2621
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2622
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2623
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2627
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	166305107.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2628
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2287646.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2629
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2630
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2631
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2632
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2633
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2637
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	192129007.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2638
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1228058.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2639
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2640
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2641
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2642
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2643
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2647
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	219815403.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2648
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2649
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2650
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2651
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2652
9-SoCal_PowerPeakerBaseload (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2653
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2797
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2798
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2552054.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2799
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2800
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2801
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2802

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2803
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2807
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2698514.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2808
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3345499.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2809
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2810
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2811
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2812
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2813
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2817
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6956989.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2818
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3997839.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2819
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2820
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2821
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2822
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2823
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2827
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12775425.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2828
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4509074.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2829
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2830
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2831
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2832
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2833
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2837
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	20153820.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2838
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4879204.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2839
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2840
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2841
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2842
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2843
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2847
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29092176.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2848
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5108228.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2849
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2850
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2851
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2852
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2853
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2857
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39912005.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2858
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5281935.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2859

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2860
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2861
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2862
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2863
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2867
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	52413541.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2868
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5303524.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2869
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2870
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2871
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2872
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2873
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2877
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	66596785.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2878
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5172995.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2879
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2880
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2881
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2882
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2883
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2887
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	82461736.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2888
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4890348.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2889
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2890
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2891
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2892
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2893
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2897
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	100008394.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2898
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4455584.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2899
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2900
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2901
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2902
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2903
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2907
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	120244801.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2908
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3901409.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2909
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2910
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2911
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2912
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2913

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2917
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	142343706.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2918
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3178763.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2919
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2920
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2921
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2922
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2923
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2927
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	166305107.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2928
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2287646.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2929
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2930
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2931
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2932
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2933
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2937
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	192129007.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2938
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1228058.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2939
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2940
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2941
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2942
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2943
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2947
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	219815403.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2948
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2949
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2950
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2951
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2952
10-SoCal_PowerPeakerBaseload (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV2953
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3097
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3098
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2552054.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3099
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3100
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3101
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3102
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3103
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3107
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2698514.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3108
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3345499.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3109
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3110

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3111
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3112
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3113
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3117
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6956989.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3118
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3997839.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3119
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3120
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3121
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3122
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3123
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3127
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12775425.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3128
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4509074.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3129
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3130
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3131
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3132
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3133
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3137
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	20153820.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3138
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4879204.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3139
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3140
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3141
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3142
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3143
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3147
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29092176.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3148
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5108228.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3149
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3150
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3151
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3152
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3153
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3157
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39912005.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3158
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5281935.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3159
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3160
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3161
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3162
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3163
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3167

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	52413541.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3168
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5303524.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3169
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3170
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3171
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3172
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3173
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3177
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	66596785.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3178
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5172995.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3179
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3180
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3181
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3182
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3183
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3187
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	82461736.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3188
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4890348.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3189
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3190
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3191
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3192
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3193
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3197
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	100008394.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3198
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4455584.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3199
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3200
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3201
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3202
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3203
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3207
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	120244801.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3208
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3901409.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3209
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3210
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3211
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3212
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3213
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3217
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	142343706.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3218
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3178763.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3219
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3220
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3221

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3222
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3223
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3227
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	166305107.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3228
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2287646.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3229
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3230
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3231
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3232
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3233
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3237
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	192129007.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3238
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1228058.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3239
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3240
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3241
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3242
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3243
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3247
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	219815403.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3248
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3249
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3250
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3251
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3252
11-SoCal_PowerPeakerBaseload (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3253
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3397
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3398
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2552054.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3399
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3400
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3401
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3402
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3403
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3407
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2698514.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3408
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3345499.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3409
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3410
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3411
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3412
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3413
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3417
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6956989.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3418

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3997839.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3419
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3420
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3421
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3422
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3423
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3427
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12775425.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3428
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4509074.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3429
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3430
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3431
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3432
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3433
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3437
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	20153820.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3438
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4879204.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3439
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3440
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3441
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3442
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3443
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3447
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29092176.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3448
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5108228.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3449
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3450
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3451
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3452
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3453
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3457
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39912005.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3458
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5281935.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3459
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3460
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3461
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3462
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3463
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3467
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	52413541.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3468
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5303524.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3469
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3470
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3471
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3472

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3473
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3477
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	66596785.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3478
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	5172995.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3479
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3480
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3481
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3482
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3483
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3487
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	82461736.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3488
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4890348.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3489
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3490
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3491
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3492
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3493
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3497
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	100008394.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3498
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	4455584.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3499
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3500
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3501
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3502
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3503
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3507
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	120244801.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3508
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3901409.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3509
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3510
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3511
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3512
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3513
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3517
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	142343706.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3518
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	3178763.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3519
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3520
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3521
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3522
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3523
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3527
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	166305107.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3528
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	2287646.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3529

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3530
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3531
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3532
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3533
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3537
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	192129007.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3538
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	1228058.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3539
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3540
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3541
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3542
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3543
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	94.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3547
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	219815403.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3548
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3549
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	26.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3550
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	251525106.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3551
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3552
12-SoCal_PowerPeakerBaseload (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3553
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3697
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3698
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	103286.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3699
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3700
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3701
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3702
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3703
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3707
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	207592.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3708
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	135398.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3709
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3710
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3711
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3712
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3713
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3717
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	535189.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3718
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	161799.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3719
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3720
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3721
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3722
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3723

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Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3727
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	982791.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3728
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	182490.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3729
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3730
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3731
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3732
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3733
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3737
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1550399.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3738
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197470.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3739
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3740
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3741
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3742
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3743
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3747
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2238011.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3748
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	206739.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3749
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3750
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3751
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3752
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3753
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3757
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3070363.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3758
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	213769.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3759
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3760
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3761
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3762
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3763
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3767
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4032085.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3768
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	214643.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3769
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3770
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3771
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3772
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3773
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3777
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5123178.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3778
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	209360.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3779
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3780

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3781
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3782
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3783
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3787
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6343642.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3788
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197921.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3789
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3790
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3791
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3792
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3793
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3797
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7693476.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3798
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	180325.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3799
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3800
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3801
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3802
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3803
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3807
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9250229.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3808
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	157897.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3809
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3810
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3811
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3812
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3813
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3817
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10950260.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3818
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	128650.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3819
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3820
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3821
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3822
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3823
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3827
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12793570.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3828
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	92585.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3829
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3830
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3831
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3832
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3833
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3837

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14780159.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3838
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	49701.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3839
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3840
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3841
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3842
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3843
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3847
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	16910027.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3848
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3849
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3850
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3851
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3852
13-SoCal_PowerCogeneration (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3853
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3997
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3998
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	103286.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV3999
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4000
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4001
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4002
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4003
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4007
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	207592.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4008
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	135398.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4009
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4010
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4011
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4012
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4013
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4017
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	535189.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4018
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	161799.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4019
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4020
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4021
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4022
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4023
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4027
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	982791.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4028
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	182490.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4029
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4030
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4031

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4032
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4033
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4037
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1550399.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4038
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197470.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4039
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4040
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4041
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4042
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4043
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4047
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2238011.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4048
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	206739.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4049
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4050
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4051
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4052
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4053
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4057
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3070363.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4058
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	213769.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4059
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4060
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4061
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4062
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4063
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4067
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4032085.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4068
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	214643.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4069
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4070
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4071
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4072
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4073
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4077
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5123178.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4078
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	209360.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4079
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4080
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4081
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4082
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4083
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4087
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6343642.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4088

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197921.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4089
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4090
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4091
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4092
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4093
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4097
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7693476.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4098
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	180325.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4099
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4100
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4101
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4102
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4103
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4107
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9250229.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4108
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	157897.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4109
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4110
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4111
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4112
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4113
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4117
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10950260.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4118
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	128650.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4119
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4120
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4121
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4122
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4123
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4127
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12793570.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4128
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	92585.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4129
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4130
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4131
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4132
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4133
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4137
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14780159.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4138
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	49701.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4139
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4140
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4141
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4142

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4143
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4147
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	16910027.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4148
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4149
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4150
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4151
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4152
14-SoCal_PowerCogeneration (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4153
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4297
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4298
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	103286.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4299
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4300
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4301
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4302
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4303
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4307
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	207592.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4308
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	135398.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4309
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4310
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4311
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4312
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4313
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4317
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	535189.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4318
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	161799.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4319
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4320
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4321
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4322
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4323
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4327
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	982791.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4328
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	182490.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4329
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4330
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4331
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4332
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4333
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4337
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1550399.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4338
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197470.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4339

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4340
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4341
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4342
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4343
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4347
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2238011.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4348
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	206739.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4349
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4350
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4351
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4352
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4353
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4357
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3070363.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4358
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	213769.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4359
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4360
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4361
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4362
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4363
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4367
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4032085.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4368
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	214643.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4369
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4370
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4371
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4372
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4373
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4377
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5123178.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4378
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	209360.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4379
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4380
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4381
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4382
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4383
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4387
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6343642.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4388
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197921.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4389
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4390
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4391
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4392
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4393

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4397
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7693476.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4398
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	180325.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4399
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4400
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4401
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4402
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4403
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4407
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9250229.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4408
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	157897.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4409
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4410
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4411
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4412
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4413
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4417
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10950260.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4418
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	128650.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4419
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4420
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4421
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4422
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4423
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4427
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12793570.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4428
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	92585.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4429
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4430
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4431
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4432
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4433
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4437
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14780159.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4438
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	49701.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4439
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4440
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4441
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4442
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4443
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4447
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	16910027.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4448
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4449
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4450

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Equipment ID	Fuel Type	Parameter	Value	Reference
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4451
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4452
15-SoCal_PowerCogeneration (LowConservative_ICEngines)	2045_H2-NG	NG NOx EF (lb/MMBtu)	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4453
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4597
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4598
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	103286.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4599
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4600
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4601
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4602
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2030_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4603
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4607
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	207592.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4608
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	135398.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4609
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4610
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4611
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4612
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2031_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4613
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4617
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	535189.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4618
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	161799.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4619
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4620
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4621
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4622
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2032_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4623
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4627
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	982791.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4628
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	182490.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4629
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4630
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4631
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4632
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2033_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4633
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4637
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	1550399.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4638
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	197470.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4639
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4640
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4641
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4642
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2034_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4643
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4647

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2238011.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4648
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	206739.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4649
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4650
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4651
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4652
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4653
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4657
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3070363.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4658
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	213769.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4659
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4660
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4661
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4662
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4663
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4667
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	4032085.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4668
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	214643.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4669
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4670
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4671
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4672
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4673
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4677
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5123178.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4678
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	209360.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4679
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4680
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4681
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4682
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4683
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4687
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	6343642.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4688
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	197921.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4689
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4690
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4691
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4692
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4693
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4697
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7693476.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4698
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	180325.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4699
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4700
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4701

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4702
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4703
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4707
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9250229.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4708
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	157897.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4709
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4710
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4711
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4712
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4713
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4717
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	10950260.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4718
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	128650.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4719
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4720
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4721
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4722
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4723
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4727
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	12793570.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4728
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	92585.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4729
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4730
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4731
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4732
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4733
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4737
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14780159.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4738
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	49701.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4739
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4740
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4741
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4742
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4743
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4747
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	16910027.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4748
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4749
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4750
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4751
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4752
16-SoCal_PowerCogeneration (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4753
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4897
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4898

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	239988.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4899
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4900
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4901
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4902
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4903
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4907
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	482345.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4908
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	314601.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4909
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4910
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4911
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4912
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4913
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4917
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1243525.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4918
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	375945.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4919
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4920
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4921
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4922
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4923
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4927
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2283540.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4928
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	424020.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4929
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4930
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4931
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4932
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4933
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4937
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3602389.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4938
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	458826.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4939
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4940
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4941
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4942
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4943
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4947
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5200073.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4948
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	480363.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4949
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4950
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4951
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4952

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	Fuel Type	Parameter	Value	Reference
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2035_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4953
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4957
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	7134061.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4958
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	496698.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4959
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4960
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4961
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	O2 Percent (scf/100-scf)	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4962
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2036_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4963
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4967
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	9368645.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4968
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	498728.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4969
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4970
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4971
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	O2 Percent (scf/100-scf)	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4972
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2037_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4973
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4977
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	11903825.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4978
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	486454.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4979
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4980
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4981
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	O2 Percent (scf/100-scf)	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4982
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2038_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4983
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4987
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	14739602.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4988
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	459874.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4989
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4990
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4991
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	O2 Percent (scf/100-scf)	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4992
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2039_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4993
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4997
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	17875975.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4998
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	418990.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4999
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5000
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5001
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	O2 Percent (scf/100-scf)	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5002
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2040_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5003
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5007
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	21493126.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5008
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	366877.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5009

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5010
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5011
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5012
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5013
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5017
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	25443189.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5018
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	298922.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5019
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5020
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5021
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5022
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5023
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5027
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29726164.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5028
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	215123.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5029
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5030
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5031
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5032
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5033
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5037
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34342051.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5038
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	115483.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5039
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5040
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5041
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5042
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5043
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5047
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39290849.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5048
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5049
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5050
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5051
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5052
17-SoCal_PowerCogeneration (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5053
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5197
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5198
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	239988.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5199
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5200
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5201
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5202
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5203

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5207
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	482345.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5208
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	314601.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5209
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5210
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5211
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5212
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5213
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5217
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1243525.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5218
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	375945.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5219
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5220
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5221
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5222
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5223
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5227
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2283540.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5228
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	424020.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5229
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5230
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5231
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5232
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5233
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5237
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3602389.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5238
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	458826.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5239
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5240
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5241
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5242
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5243
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5247
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5200073.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5248
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	480363.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5249
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5250
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5251
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5252
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5253
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5257
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7134061.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5258
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	496698.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5259
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5260

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5261
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5262
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5263
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5267
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9368645.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5268
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	498728.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5269
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5270
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5271
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5272
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5273
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5277
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	11903825.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5278
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486454.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5279
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5280
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5281
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5282
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5283
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5287
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14739602.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5288
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	459874.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5289
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5290
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5291
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5292
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5293
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5297
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17875975.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5298
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	418990.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5299
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5300
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5301
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5302
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5303
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5307
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21493126.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5308
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	366877.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5309
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5310
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5311
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5312
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5313
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5317

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	25443189.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5318
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	298922.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5319
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5320
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5321
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5322
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5323
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5327
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29726164.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5328
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	215123.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5329
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5330
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5331
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5332
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5333
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5337
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34342051.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5338
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	115483.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5339
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5340
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5341
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5342
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5343
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5347
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39290849.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5348
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5349
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5350
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5351
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5352
18-SoCal_PowerCogeneration (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5353
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5497
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5498
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	239988.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5499
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5500
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5501
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5502
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5503
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5507
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	482345.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5508
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	314601.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5509
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5510
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5511

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5512
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5513
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5517
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1243525.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5518
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	375945.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5519
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5520
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5521
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5522
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5523
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5527
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2283540.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5528
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	424020.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5529
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5530
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5531
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5532
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5533
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5537
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3602389.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5538
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	458826.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5539
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5540
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5541
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5542
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5543
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5547
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5200073.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5548
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	480363.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5549
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5550
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5551
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5552
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5553
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5557
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7134061.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5558
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	496698.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5559
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5560
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5561
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5562
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5563
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5567
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9368645.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5568

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	498728.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5569
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5570
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5571
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5572
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5573
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5577
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	11903825.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5578
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486454.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5579
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5580
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5581
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5582
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5583
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5587
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14739602.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5588
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	459874.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5589
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5590
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5591
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5592
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5593
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5597
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17875975.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5598
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	418990.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5599
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5600
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5601
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5602
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5603
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5607
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21493126.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5608
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	366877.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5609
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5610
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5611
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5612
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5613
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5617
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	25443189.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5618
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	298922.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5619
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5620
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5621
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5622

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5623
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5627
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29726164.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5628
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	215123.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5629
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5630
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5631
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5632
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5633
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5637
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34342051.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5638
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	115483.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5639
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5640
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5641
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5642
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5643
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5647
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39290849.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5648
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5649
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5650
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5651
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5652
19-SoCal_PowerCogeneration (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5653
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5797
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5798
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	239988.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5799
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5800
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5801
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5802
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5803
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5807
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	482345.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5808
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	314601.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5809
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5810
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5811
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5812
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5813
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5817
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	1243525.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5818
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	375945.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5819

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5820
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5821
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5822
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5823
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5827
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2283540.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5828
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	424020.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5829
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5830
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5831
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5832
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5833
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5837
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3602389.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5838
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	458826.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5839
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5840
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5841
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5842
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5843
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5847
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5200073.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5848
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	480363.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5849
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5850
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5851
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5852
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5853
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5857
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	7134061.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5858
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	496698.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5859
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5860
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5861
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5862
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5863
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5867
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	9368645.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5868
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	498728.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5869
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5870
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5871
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5872
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5873

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5877
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	11903825.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5878
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486454.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5879
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5880
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5881
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5882
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5883
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5887
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	14739602.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5888
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	459874.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5889
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5890
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5891
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5892
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5893
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5897
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	17875975.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5898
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	418990.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5899
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5900
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5901
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5902
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5903
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5907
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	21493126.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5908
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	366877.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5909
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5910
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5911
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5912
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5913
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5917
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	25443189.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5918
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	298922.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5919
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5920
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5921
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5922
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5923
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5927
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29726164.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5928
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	215123.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5929
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5930

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5931
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5932
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5933
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5937
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34342051.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5938
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	115483.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5939
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5940
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5941
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5942
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5943
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5947
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	39290849.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5948
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5949
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5950
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5951
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5952
20-SoCal_PowerCogeneration (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV5953
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6097
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6098
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	390182.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6099
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6100
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6101
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6102
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6103
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6107
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	784217.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6108
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	511492.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6109
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6110
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6111
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6112
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6113
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6117
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2021775.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6118
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	611228.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6119
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6120
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6121
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6122
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6123
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6127

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3712674.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6128
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	689390.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6129
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6130
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6131
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6132
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6133
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6137
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5856915.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6138
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	745979.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6139
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6140
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6141
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6142
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6143
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6147
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	8454496.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6148
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	780995.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6149
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6150
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6151
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6152
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6153
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6157
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	11598854.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6158
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	807553.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6159
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6160
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6161
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6162
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6163
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6167
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	15231934.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6168
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	810854.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6169
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6170
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6171
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6172
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6173
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6177
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	19353736.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6178
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	790897.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6179
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6180
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6181

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6182
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6183
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6187
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	23964260.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6188
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	747683.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6189
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6190
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6191
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6192
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6193
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6197
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29063506.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6198
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	681212.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6199
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6200
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6201
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6202
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6203
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6207
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34944422.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6208
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	596485.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6209
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6210
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6211
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6212
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6213
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6217
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	41366599.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6218
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486000.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6219
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6220
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6221
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6222
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6223
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6227
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	48330038.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6228
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	349757.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6229
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6230
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6231
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6232
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6233
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6237
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	55834739.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6238

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	187757.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6239
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6240
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6241
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6242
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6243
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6247
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	63880701.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6248
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6249
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6250
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6251
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6252
21-SoCal_PowerCogeneration (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6253
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6397
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6398
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	390182.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6399
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6400
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6401
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6402
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6403
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6407
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	784217.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6408
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	511492.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6409
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6410
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6411
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6412
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6413
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6417
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2021775.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6418
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	611228.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6419
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6420
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6421
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6422
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6423
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6427
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3712674.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6428
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	689390.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6429
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6430
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6431
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6432

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6433
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6437
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5856915.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6438
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	745979.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6439
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6440
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6441
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6442
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6443
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6447
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	8454496.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6448
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	780995.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6449
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6450
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6451
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6452
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6453
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6457
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	11598854.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6458
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	807553.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6459
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6460
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6461
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6462
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6463
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6467
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	15231934.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6468
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	810854.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6469
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6470
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6471
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6472
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6473
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6477
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	19353736.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6478
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	790897.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6479
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6480
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6481
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6482
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6483
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6487
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	23964260.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6488
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	747683.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6489

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6490
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6491
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6492
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6493
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6497
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29063506.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6498
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	681212.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6499
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6500
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6501
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6502
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6503
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6507
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34944422.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6508
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	596485.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6509
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6510
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6511
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6512
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6513
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6517
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	41366599.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6518
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486000.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6519
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6520
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6521
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6522
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6523
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6527
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	48330038.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6528
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	349757.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6529
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6530
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6531
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6532
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6533
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6537
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	55834739.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6538
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	187757.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6539
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6540
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6541
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6542
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6543

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6547
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	63880701.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6548
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6549
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6550
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6551
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6552
22-SoCal_PowerCogeneration (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6553
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6697
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6698
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	390182.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6699
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6700
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6701
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6702
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6703
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6707
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	784217.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6708
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	511492.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6709
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6710
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6711
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6712
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6713
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6717
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2021775.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6718
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	611228.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6719
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6720
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6721
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6722
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6723
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6727
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3712674.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6728
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	689390.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6729
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6730
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6731
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6732
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6733
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6737
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5856915.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6738
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	745979.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6739
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6740

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6741
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6742
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6743
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6747
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	8454496.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6748
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	780995.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6749
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6750
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6751
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6752
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6753
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6757
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	11598854.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6758
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	807553.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6759
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6760
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6761
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6762
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6763
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6767
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	15231934.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6768
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	810854.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6769
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6770
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6771
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6772
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6773
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6777
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	19353736.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6778
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	790897.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6779
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6780
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6781
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6782
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6783
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6787
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	23964260.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6788
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	747683.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6789
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6790
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6791
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6792
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6793
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6797

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	29063506.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6798
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	681212.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6799
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6800
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6801
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6802
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6803
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6807
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34944422.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6808
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	596485.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6809
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6810
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6811
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6812
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6813
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6817
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	41366599.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6818
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486000.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6819
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6820
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6821
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6822
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6823
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6827
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	48330038.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6828
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	349757.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6829
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6830
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6831
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6832
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6833
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6837
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	55834739.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6838
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	187757.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6839
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6840
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6841
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6842
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6843
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6847
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	63880701.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6848
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6849
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6850
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6851

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6852
23-SoCal_PowerCogeneration (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6853
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6997
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6998
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	390182.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV6999
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7000
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7001
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7002
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7003
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7007
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	784217.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7008
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	511492.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7009
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7010
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7011
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7012
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7013
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7017
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	2021775.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7018
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	611228.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7019
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7020
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7021
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7022
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7023
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7027
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	3712674.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7028
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	689390.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7029
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7030
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7031
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7032
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7033
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7037
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	5856915.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7038
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	745979.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7039
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7040
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7041
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7042
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7043
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7047
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	8454496.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7048

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	Fuel Type	Parameter	Value	Reference
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	780995.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7049
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7050
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7051
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7052
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2035_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7053
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7057
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	11598854.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7058
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	807553.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7059
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7060
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7061
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7062
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2036_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7063
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7067
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	15231934.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7068
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	810854.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7069
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7070
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7071
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7072
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2037_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7073
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7077
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	19353736.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7078
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	790897.59	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7079
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7080
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7081
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7082
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2038_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7083
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7087
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	23964260.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7088
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	747683.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7089
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7090
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7091
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7092
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2039_H2-NG	NG NOx EF (lb/MMBtu)	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7093
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	Equip. Throughput Fraction (MMBtu/100-MMBtu)	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7097
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	PRJ 100%-H2 Demand (MMBtu/yr)	29063506.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7098
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	PRJ Blend-H2 Demand (MMBtu/yr)	681212.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7099
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	Blend % H2 (scf/100-scf)	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7100
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	BSL NG Consumption (MMBtu/yr)	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7101
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	O2 Percent (scf/100-scf)	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7102

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "Industrial NOx_IndustPow_3_DataPrep_SoCalGas", "2. Data_Prep_Power" tab. The input data in this tab was processed through the function in "3.1 EQ Power NOx Calc" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7103
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7107
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	34944422.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7108
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	596485.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7109
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7110
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7111
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7112
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7113
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7117
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	41366599.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7118
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	486000.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7119
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7120
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7121
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7122
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7123
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7127
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	48330038.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7128
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	349757.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7129
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7130
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7131
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7132
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7133
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7137
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	55834739.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7138
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	187757.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7139
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7140
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7141
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7142
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7143
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	99.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7147
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ 100%-H2 Demand (MMBtu/yr)*	63880701.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7148
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ Blend-H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7149
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	17.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7150
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	73095879.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7151
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7152
24-SoCal_PowerCogeneration (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV7153

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

10/15/2024

Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ 100%-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu) + PRJ Blend-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate (MMBtu/yr) - PRJ Overall H2 Heat Rate (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

10/15/2024

BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ 100%-H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ Blend-H2 Demand (MMBtu/yr) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Power NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	5.67	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1347

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

10/15/2024

Parameter	Value	Units	Resource
PRJ 100%-H2 Demand	17,893,609.49	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1348
PRJ Blend-H2 Demand	3,141,898.06	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1349
Blend % H2	26.58	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1350
Blend % NG	73.42	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	4.46	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	95.54	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	10.80	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	89.20	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	1,472,873.96	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions: "Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG})

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

10/15/2024

Parameter	Value	Units	Resource
			Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	24,160.27	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

10/15/2024

Parameter	Value	Units	Resource
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	13,993,412,719.99	scf/yr	Calculated Below
PRJ H2 Vol	3,500,588,733.93	scf/yr	Calculated Below
PRJ NG Vol	12,823,117,858.94	scf/yr	Calculated Below
BSL NG Consumption	251525106.00	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1351
BSL Overall Heat Rate	14,273,280.97	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	14,273,280.97	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	1,015,407.65	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	178,293.11	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2 as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where

Parameter	Value	Units	Resource
			default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	1,193,700.76	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	11,606,706.26	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	1,472,873.96	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	13,079,580.22	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.05	scf/MMBtu	Calculated Below
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	8,414.68	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	3.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1352

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

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Parameter	Value	Units	Resource
O2 Correction	1.17	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.01	lb/MMBtu	Calculated Below
NG NOx EF	0.01	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1353
Blend NOx EF	0.01	lb/MMBtu	Calculated Below
NOx NG EF Conc	11.93	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.03	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	84.11	ton/yr	Calculated Below
PRJ Blend-NG NOx	10.61	ton/yr	Calculated Below
PRJ Overall NG NOx	94.71	ton/yr	Calculated Below
PRJ 100%-H2 NOx	6.92	ton/yr	Calculated Below
PRJ Blend-H2 NOx	1.28	ton/yr	Calculated Below
PRJ Overall H2 NOx	8.20	ton/yr	Calculated Below
BSL Overall NOx	103.43	ton/yr	Calculated Below
PRJ Overall NOx	102.91	ton/yr	Calculated Below
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 251,525,106.0 (MMBtu/yr) x 5.6746943 (MMBtu/100-MMBtu) = 14,273,280.9743918 (MMBtu/yr)

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

10/15/2024

PRJ Overall Heat Rate (MMBtu/yr) = 251,525,106.0 (MMBtu/yr) x 5.6746943 (MMBtu/100-MMBtu) = 14,273,280.9743918 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 17,893,609.4914102 (MMBtu/yr) x 5.6746943 (MMBtu/100-MMBtu) + 3,141,898.0625345 (MMBtu/yr) x 5.6746943 (MMBtu/100-MMBtu) = 1,193,700.758271 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 14,273,280.9743918 (MMBtu/yr) - 1,193,700.758271 (MMBtu/yr) = 13,079,580.2161208 (MMBtu/yr)

BSL NG Vol (scf/yr) = 14,273,280.9743918 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 13,993,412,719.992 (scf/yr)

PRJ NG Vol (scf/yr) = 13,079,580.2161208 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 12,823,117,858.942 (scf/yr)

PRJ H2 Vol (scf/yr) = 1,193,700.758271 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 3,500,588,733.93258 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.0492449 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 10.7980056 (Btu/100-Btu) x 5,975.0492449 (scf/MMBtu) + 89.2019944 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 8,414.6798655 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 4.455663 (lb/100-lb) x 60,920.0 (Btu/lb) + 95.544337 (lb/100-lb) x 22,446.0 (Btu/lb) = 24,160.2717754 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0144929 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 1.1675978 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 11.9342078 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0144929 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0003253 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 11.9342078 (ppm) x 1.0285458 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 8,414.6798655 (scf/MMBtu) x 1.1675978 (scf/scf) = 0.0144011 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.0144011 (lb/MMBtu) x 24,160.2717754 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0003479 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 11.9342078 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 1.1675978 (scf/scf) = 0.0136207 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0136207 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0008298 (kg NOx/kg H2)

BSL NOx (ton NOx/yr) = 14,273,280.9743918 (MMBtu/yr) x 0.0144929 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 103.4303111 (ton NOx/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 11,606,706.259682 (MMBtu/yr) x 0.0144929 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 84.1071679 (ton NOx/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 1,472,873.9564388 (MMBtu/yr) x 0.0144011 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 10.6055377 (ton NOx/yr)

Sample Emission Calculation

5-SoCal_PowerPeakerBaseload (MidModerate_ECGeneral) 2035_H2-NG

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PRJ Blend-H2 NOx (ton NOx/yr) = 178,293.1117797 (MMBtu/yr) x 0.0144011 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 1.2838127 (ton NOx/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 1,015,407.6464913 (MMBtu/yr) x 0.0136207 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 6.9152573 (ton NOx/yr)

PRJ Overall NG NOx (ton NOx/yr) = 84.1071679 (ton/yr) + 10.6055377 (ton/yr) = 94.7127055 (ton NOx/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 1.2838127 (ton/yr) + 6.9152573 (ton/yr) = 8.1990701 (ton NOx/yr)

PRJ Overall NOx (ton NOx/yr) = 94.7127055 (ton/yr) + 8.1990701 (ton/yr) = 102.9117756 (ton NOx/yr)

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

10/15/2024

Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ 100%-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu) + PRJ Blend-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate (MMBtu/yr) - PRJ Overall H2 Heat Rate (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

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BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ 100%-H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ Blend-H2 Demand (MMBtu/yr) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Power NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	0.16	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4347

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
PRJ 100%-H2 Demand	2,238,011.98	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4348
PRJ Blend-H2 Demand	206,739.36	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4349
Blend % H2	17.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4350
Blend % NG	83.00	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	2.57	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	97.43	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	6.41	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	93.59	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	4,875.77	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions: "Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG})

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
			Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	23,434.83	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

10/15/2024

Parameter	Value	Units	Resource
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	115,727,819.71	scf/yr	Calculated Below
PRJ H2 Vol	11,577,781.89	scf/yr	Calculated Below
PRJ NG Vol	111,857,208.31	scf/yr	Calculated Below
BSL NG Consumption	73095879.00	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4351
BSL Overall Heat Rate	118,042.38	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	118,042.38	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	3,614.16	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	333.86	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2 as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where

Parameter	Value	Units	Resource
			default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	3,948.02	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	109,218.58	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	4,875.77	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	114,094.35	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.05	scf/MMBtu	Calculated Below
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	8,534.73	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	15.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4352

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
O2 Correction	3.54	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.04	lb/MMBtu	Calculated Below
NG NOx EF	0.04	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4353
Blend NOx EF	0.04	lb/MMBtu	Calculated Below
NOx NG EF Conc	11.00	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.02	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	2.21	ton/yr	Calculated Below
PRJ Blend-NG NOx	0.10	ton/yr	Calculated Below
PRJ Overall NG NOx	2.31	ton/yr	Calculated Below
PRJ 100%-H2 NOx	0.07	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.01	ton/yr	Calculated Below
PRJ Overall H2 NOx	0.08	ton/yr	Calculated Below
BSL Overall NOx	2.39	ton/yr	Calculated Below
PRJ Overall NOx	2.39	ton/yr	Calculated Below
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 73,095,879.0 (MMBtu/yr) x 0.1614898 (MMBtu/100-MMBtu) = 118,042.3761033 (MMBtu/yr)

Sample Emission Calculation

15-SoCal_PowerCogeneration (LowConservative_ICEngines) 2035_H2-NG

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PRJ Overall Heat Rate (MMBtu/yr) = 73,095,879.0 (MMBtu/yr) x 0.1614898 (MMBtu/100-MMBtu) = 118,042.3761033 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 2,238,011.9836249 (MMBtu/yr) x 0.1614898 (MMBtu/100-MMBtu) + 206,739.3561778 (MMBtu/yr) x 0.1614898 (MMBtu/100-MMBtu) = 3,948.0236243 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 118,042.3761033 (MMBtu/yr) - 3,948.0236243 (MMBtu/yr) = 114,094.352479 (MMBtu/yr)

BSL NG Vol (scf/yr) = 118,042.3761033 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 115,727,819.709129 (scf/yr)

PRJ NG Vol (scf/yr) = 114,094.352479 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 111,857,208.312742 (scf/yr)

PRJ H2 Vol (scf/yr) = 3,948.0236243 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 11,577,781.8894867 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.0492449 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 6.4085698 (Btu/100-Btu) x 5,975.0492449 (scf/MMBtu) + 93.5914302 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 8,534.7287714 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 2.5701327 (lb/100-lb) x 60,920.0 (Btu/lb) + 97.4298673 (lb/100-lb) x 22,446.0 (Btu/lb) = 23,434.8328574 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0405279 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 3.5423729 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 10.9999995 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0405279 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0009097 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 10.9999995 (ppm) x 1.01615 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 8,534.7287714 (scf/MMBtu) x 3.5423729 (scf/scf) = 0.0403537 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.0403537 (lb/MMBtu) x 23,434.8328574 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0009457 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 10.9999995 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 3.5423729 (scf/scf) = 0.0380889 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0380889 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0023204 (kg NOx/kg H2)

BSL NOx (ton NOx/yr) = 118,042.3761033 (MMBtu/yr) x 0.0405279 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 2.3920048 (ton NOx/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 109,218.5829022 (MMBtu/yr) x 0.0405279 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 2.2131999 (ton NOx/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 4,875.7695768 (MMBtu/yr) x 0.0403537 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0983777 (ton NOx/yr)

Sample Emission Calculation

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PRJ Blend-H2 NOx (ton NOx/yr) = 333.8629369 (MMBtu/yr) x 0.0403537 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0067363 (ton NOx/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 3,614.1606874 (MMBtu/yr) x 0.0380889 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0688296 (ton NOx/yr)

PRJ Overall NG NOx (ton NOx/yr) = 2.2131999 (ton/yr) + 0.0983777 (ton/yr) = 2.3115776 (ton NOx/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.0067363 (ton/yr) + 0.0688296 (ton/yr) = 0.0755659 (ton NOx/yr)

PRJ Overall NOx (ton NOx/yr) = 2.3115776 (ton/yr) + 0.0755659 (ton/yr) = 2.3871435 (ton NOx/yr)

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

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Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ 100%-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu) + PRJ Blend-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate (MMBtu/yr) - PRJ Overall H2 Heat Rate (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

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BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ 100%-H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ Blend-H2 Demand (MMBtu/yr) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Power NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	99.01	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4647

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
PRJ 100%-H2 Demand	2,238,011.98	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4648
PRJ Blend-H2 Demand	206,739.36	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4649
Blend % H2	17.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4650
Blend % NG	83.00	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	2.57	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	97.43	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	6.41	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	93.59	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	2,989,482.84	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions: "Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG})

Sample Emission Calculation

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Parameter	Value	Units	Resource
			Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	23,434.83	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	70,956,251,363.69	scf/yr	Calculated Below
PRJ H2 Vol	7,098,690,738.75	scf/yr	Calculated Below
PRJ NG Vol	68,583,061,616.71	scf/yr	Calculated Below
BSL NG Consumption	73095879.00	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4651
BSL Overall Heat Rate	72,375,376.39	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	72,375,376.39	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	2,215,952.01	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	204,701.54	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2 as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where

Sample Emission Calculation

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Parameter	Value	Units	Resource
			default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	2,420,653.54	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	66,965,240.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	2,989,482.84	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	69,954,722.85	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.05	scf/MMBtu	Calculated Below
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	8,534.73	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	15.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4652

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
O2 Correction	3.54	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.01	lb/MMBtu	Calculated Below
NG NOx EF	0.01	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV4653
Blend NOx EF	0.01	lb/MMBtu	Calculated Below
NOx NG EF Conc	2.00	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.02	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	246.72	ton/yr	Calculated Below
PRJ Blend-NG NOx	10.97	ton/yr	Calculated Below
PRJ Overall NG NOx	257.69	ton/yr	Calculated Below
PRJ 100%-H2 NOx	7.67	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.75	ton/yr	Calculated Below
PRJ Overall H2 NOx	8.42	ton/yr	Calculated Below
BSL Overall NOx	266.66	ton/yr	Calculated Below
PRJ Overall NOx	266.11	ton/yr	Calculated Below
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 73,095,879.0 (MMBtu/yr) x 99.0143047 (MMBtu/100-MMBtu) = 72,375,376.3909596 (MMBtu/yr)

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

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PRJ Overall Heat Rate (MMBtu/yr) = 73,095,879.0 (MMBtu/yr) x 99.0143047 (MMBtu/100-MMBtu) = 72,375,376.3909596 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 2,238,011.9836249 (MMBtu/yr) x 99.0143047 (MMBtu/100-MMBtu) + 206,739.3561778 (MMBtu/yr) x 99.0143047 (MMBtu/100-MMBtu) = 2,420,653.5419121 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 72,375,376.3909596 (MMBtu/yr) - 2,420,653.5419121 (MMBtu/yr) = 69,954,722.8490476 (MMBtu/yr)

BSL NG Vol (scf/yr) = 72,375,376.3909596 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 70,956,251,363.6859 (scf/yr)

PRJ NG Vol (scf/yr) = 69,954,722.8490476 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 68,583,061,616.7133 (scf/yr)

PRJ H2 Vol (scf/yr) = 2,420,653.5419121 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 7,098,690,738.74501 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.0492449 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 6.4085698 (Btu/100-Btu) x 5,975.0492449 (scf/MMBtu) + 93.5914302 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 8,534.7287714 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 2.5701327 (lb/100-lb) x 60,920.0 (Btu/lb) + 97.4298673 (lb/100-lb) x 22,446.0 (Btu/lb) = 23,434.8328574 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0073687 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 3.5423729 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 2.0000002 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0073687 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0001654 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 2.0000002 (ppm) x 1.01615 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 8,534.7287714 (scf/MMBtu) x 3.5423729 (scf/scf) = 0.007337 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.007337 (lb/MMBtu) x 23,434.8328574 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0001719 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 2.0000002 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 3.5423729 (scf/scf) = 0.0069252 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0069252 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0004219 (kg NOx/kg H2)

BSL NOx (ton NOx/yr) = 72,375,376.3909596 (MMBtu/yr) x 0.0073687 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 266.6565799 (ton NOx/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 66,965,240.004262 (MMBtu/yr) x 0.0073687 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 246.7237168 (ton NOx/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 2,989,482.8447856 (MMBtu/yr) x 0.007337 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 10.9669768 (ton NOx/yr)

Sample Emission Calculation

16-SoCal_PowerCogeneration (LowConservative_ICTurbines) 2035_H2-NG

10/15/2024

PRJ Blend-H2 NOx (ton NOx/yr) = 204,701.536159 (MMBtu/yr) x 0.007337 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.7509516 (ton NOx/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 2,215,952.005753 (MMBtu/yr) x 0.0069252 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 7.6730092 (ton NOx/yr)

PRJ Overall NG NOx (ton NOx/yr) = 246.7237168 (ton/yr) + 10.9669768 (ton/yr) = 257.6906937 (ton NOx/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.7509516 (ton/yr) + 7.6730092 (ton/yr) = 8.4239609 (ton NOx/yr)

PRJ Overall NOx (ton NOx/yr) = 257.6906937 (ton/yr) + 8.4239609 (ton/yr) = 266.1146545 (ton NOx/yr)

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

10/15/2024

Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ 100%-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu) + PRJ Blend-H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate (MMBtu/yr) - PRJ Overall H2 Heat Rate (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

10/15/2024

BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ 100%-H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ Blend-H2 Demand (MMBtu/yr) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Power NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	0.00	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1647

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

10/15/2024

Parameter	Value	Units	Resource
PRJ 100%-H2 Demand	17,893,609.49	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1648
PRJ Blend-H2 Demand	3,141,898.06	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1649
Blend % H2	26.58	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1650
Blend % NG	73.42	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	4.46	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	95.54	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	10.80	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	89.20	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	0.00	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions: "Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG})

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
			Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	24,160.27	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	0.00	scf/yr	Calculated Below
PRJ H2 Vol	0.00	scf/yr	Calculated Below
PRJ NG Vol	0.00	scf/yr	Calculated Below
BSL NG Consumption	251525106.00	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1651
BSL Overall Heat Rate	0.00	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	0.00	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	0.00	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	0.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2 as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
			default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	0.00	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	0.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	0.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	0.00	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.05	scf/MMBtu	Calculated Below
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	8,414.68	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	0.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1652

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
O2 Correction	1.00	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.00	lb/MMBtu	Calculated Below
NG NOx EF	0.00	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 2. Data_Prep_Power, Cell AV1653
Blend NOx EF	0.00	lb/MMBtu	Calculated Below
NOx NG EF Conc	0.00	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.03	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	0.00	ton/yr	Calculated Below
PRJ Blend-NG NOx	0.00	ton/yr	Calculated Below
PRJ Overall NG NOx	0.00	ton/yr	Calculated Below
PRJ 100%-H2 NOx	0.00	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.00	ton/yr	Calculated Below
PRJ Overall H2 NOx	0.00	ton/yr	Calculated Below
BSL Overall NOx	0.00	ton/yr	Calculated Below
PRJ Overall NOx	0.00	ton/yr	Calculated Below
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 251,525,106.0 (MMBtu/yr) x 0.0 (MMBtu/100-MMBtu) = 0.0 (MMBtu/yr)

PRJ Overall Heat Rate (MMBtu/yr) = 251,525,106.0 (MMBtu/yr) x 0.0 (MMBtu/100-MMBtu) = 0.0 (MMBtu/yr)

Sample Emission Calculation

6-SoCal_PowerPeakerBaseload (MidModerate_ECOvens) 2035_H2-NG

10/15/2024

PRJ Overall H2 Heat Rate (MMBtu/yr) = 17,893,609.4914102 (MMBtu/yr) x 0.0 (MMBtu/100-MMBtu) + 3,141,898.0625345 (MMBtu/yr) x 0.0 (MMBtu/100-MMBtu) = 0.0 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 0.0 (MMBtu/yr) - 0.0 (MMBtu/yr) = 0.0 (MMBtu/yr)

BSL NG Vol (scf/yr) = 0.0 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 0.0 (scf/yr)

PRJ NG Vol (scf/yr) = 0.0 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 0.0 (scf/yr)

PRJ H2 Vol (scf/yr) = 0.0 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 0.0 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.0492449 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 10.7980056 (Btu/100-Btu) x 5,975.0492449 (scf/MMBtu) + 89.2019944 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 8,414.6798655 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 4.455663 (lb/100-lb) x 60,920.0 (Btu/lb) + 95.544337 (lb/100-lb) x 22,446.0 (Btu/lb) = 24,160.2717754 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 1.0 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 0.0 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 0.0 (ppm) x 1.0285458 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 8,414.6798655 (scf/MMBtu) x 1.0 (scf/scf) = 0.0 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.0 (lb/MMBtu) x 24,160.2717754 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 0.0 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 1.0 (scf/scf) = 0.0 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0 (kg NOx/kg H2)

BSL NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton NOx/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton NOx/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton NOx/yr)

PRJ Blend-H2 NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton NOx/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton NOx/yr)

PRJ Overall NG NOx (ton NOx/yr) = 0.0 (ton/yr) + 0.0 (ton/yr) = 0.0 (ton NOx/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.0 (ton/yr) + 0.0 (ton/yr) = 0.0 (ton NOx/yr)

PRJ Overall NOx (ton NOx/yr) = 0.0 (ton/yr) + 0.0 (ton/yr) = 0.0 (ton NOx/yr)

Appendix D.4:

Hard to Electrify Industrial

NOx Results, Calculations, and Data

	A	C	D	E	F
1					
2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
97	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV97
98	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV98
99	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV99
100	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV100
101	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV101
102	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV102
103	1-SoCal_Refineries (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV103
107	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV107
108	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV108
109	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV109
110	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV110
111	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV111
112	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV112
113	1-SoCal_Refineries (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV113
117	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV117
118	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV118
119	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV119
120	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV120
121	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV121
122	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV122
123	1-SoCal_Refineries (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV123
127	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV127
128	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV128
129	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV129
130	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV130
131	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV131
132	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV132
133	1-SoCal_Refineries (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV133
137	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV137
138	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV138
139	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV139
140	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV140
141	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV141
142	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV142
143	1-SoCal_Refineries (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV143
147	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV147

	A	C	D	E	F
1					
2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
148	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV148
149	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV149
150	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV150
151	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV151
152	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV152
153	1-SoCal_Refineries (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV153
157	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV157
158	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV158
159	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV159
160	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV160
161	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV161
162	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV162
163	1-SoCal_Refineries (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV163
167	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV167
168	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV168
169	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV169
170	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV170
171	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV171
172	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV172
173	1-SoCal_Refineries (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV173
177	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV177
178	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV178
179	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV179
180	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV180
181	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV181
182	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV182
183	1-SoCal_Refineries (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV183
187	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV187
188	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV188
189	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV189
190	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV190
191	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV191
192	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV192
193	1-SoCal_Refineries (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV193
197	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV197
198	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV198

	A	C	D	E	F
1					
2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
199	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV199
200	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV200
201	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV201
202	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV202
203	1-SoCal_Refineries (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV203
207	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV207
208	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV208
209	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV209
210	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV210
211	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV211
212	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV212
213	1-SoCal_Refineries (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV213
217	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV217
218	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV218
219	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV219
220	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV220
221	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV221
222	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV222
223	1-SoCal_Refineries (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV223
227	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV227
228	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV228
229	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV229
230	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV230
231	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV231
232	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV232
233	1-SoCal_Refineries (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV233
237	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV237
238	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV238
239	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV239
240	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV240
241	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV241
242	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV242
243	1-SoCal_Refineries (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV243
247	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV247
248	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV248
249	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV249

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
250	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV250
251	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV251
252	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV252
253	1-SoCal_Refineries (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV253
397	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV397
398	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV398
399	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV399
400	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV400
401	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV401
402	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV402
403	2-SoCal_Refineries (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV403
407	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV407
408	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV408
409	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV409
410	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV410
411	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV411
412	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV412
413	2-SoCal_Refineries (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV413
417	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV417
418	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV418
419	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV419
420	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV420
421	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV421
422	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV422
423	2-SoCal_Refineries (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV423
427	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV427
428	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV428
429	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV429
430	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV430
431	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV431
432	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV432
433	2-SoCal_Refineries (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV433
437	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV437
438	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV438
439	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV439
440	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV440

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
441	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV441
442	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV442
443	2-SoCal_Refineries (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV443
447	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV447
448	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV448
449	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV449
450	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV450
451	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV451
452	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV452
453	2-SoCal_Refineries (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV453
457	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV457
458	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV458
459	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV459
460	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV460
461	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV461
462	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV462
463	2-SoCal_Refineries (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV463
467	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV467
468	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV468
469	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV469
470	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV470
471	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV471
472	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV472
473	2-SoCal_Refineries (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV473
477	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV477
478	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV478
479	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV479
480	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV480
481	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV481
482	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV482
483	2-SoCal_Refineries (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV483
487	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV487
488	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV488
489	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV489
490	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV490
491	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV491

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
492	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV492
493	2-SoCal_Refineries (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV493
497	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV497
498	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV498
499	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV499
500	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV500
501	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV501
502	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV502
503	2-SoCal_Refineries (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV503
507	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV507
508	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV508
509	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV509
510	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV510
511	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV511
512	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV512
513	2-SoCal_Refineries (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV513
517	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV517
518	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV518
519	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV519
520	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV520
521	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV521
522	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV522
523	2-SoCal_Refineries (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV523
527	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV527
528	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV528
529	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV529
530	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV530
531	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV531
532	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV532
533	2-SoCal_Refineries (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV533
537	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV537
538	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV538
539	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV539
540	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV540
541	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV541
542	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV542

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
543	2-SoCal_Refineries (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV543
547	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV547
548	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV548
549	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV549
550	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV550
551	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV551
552	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV552
553	2-SoCal_Refineries (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV553
697	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV697
698	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV698
699	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV699
700	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV700
701	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV701
702	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV702
703	3-SoCal_Refineries (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV703
707	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV707
708	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV708
709	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV709
710	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV710
711	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV711
712	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV712
713	3-SoCal_Refineries (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV713
717	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV717
718	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV718
719	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV719
720	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV720
721	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV721
722	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV722
723	3-SoCal_Refineries (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV723
727	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV727
728	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV728
729	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV729
730	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV730
731	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV731
732	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV732
733	3-SoCal_Refineries (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV733

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
737	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV737
738	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV738
739	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV739
740	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV740
741	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV741
742	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV742
743	3-SoCal_Refineries (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV743
747	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV747
748	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV748
749	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV749
750	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV750
751	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV751
752	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV752
753	3-SoCal_Refineries (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV753
757	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV757
758	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV758
759	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV759
760	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV760
761	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV761
762	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV762
763	3-SoCal_Refineries (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV763
767	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV767
768	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV768
769	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV769
770	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV770
771	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV771
772	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV772
773	3-SoCal_Refineries (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV773
777	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV777
778	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV778
779	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV779
780	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV780
781	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV781
782	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV782
783	3-SoCal_Refineries (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV783
787	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV787

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
788	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV788
789	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV789
790	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV790
791	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV791
792	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV792
793	3-SoCal_Refineries (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV793
797	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV797
798	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV798
799	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV799
800	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV800
801	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV801
802	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV802
803	3-SoCal_Refineries (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV803
807	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV807
808	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV808
809	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV809
810	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV810
811	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV811
812	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV812
813	3-SoCal_Refineries (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV813
817	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV817
818	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV818
819	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV819
820	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV820
821	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV821
822	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV822
823	3-SoCal_Refineries (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV823
827	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV827
828	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV828
829	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV829
830	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV830
831	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV831
832	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV832
833	3-SoCal_Refineries (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV833
837	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV837
838	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV838

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
839	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV839
840	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV840
841	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV841
842	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV842
843	3-SoCal_Refineries (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV843
847	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV847
848	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV848
849	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV849
850	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV850
851	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV851
852	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV852
853	3-SoCal_Refineries (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV853
997	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV997
998	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV998
999	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV999
1000	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1000
1001	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1001
1002	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1002
1003	4-SoCal_Refineries (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1003
1007	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1007
1008	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1008
1009	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1009
1010	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1010
1011	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1011
1012	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1012
1013	4-SoCal_Refineries (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1013
1017	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1017
1018	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1018
1019	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1019
1020	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1020
1021	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1021
1022	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1022
1023	4-SoCal_Refineries (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1023
1027	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1027
1028	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1028
1029	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1029

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1030	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1030
1031	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1031
1032	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1032
1033	4-SoCal_Refineries (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1033
1037	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1037
1038	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1038
1039	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1039
1040	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1040
1041	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1041
1042	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1042
1043	4-SoCal_Refineries (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1043
1047	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1047
1048	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1048
1049	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1049
1050	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1050
1051	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1051
1052	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1052
1053	4-SoCal_Refineries (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1053
1057	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1057
1058	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1058
1059	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1059
1060	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1060
1061	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1061
1062	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1062
1063	4-SoCal_Refineries (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1063
1067	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1067
1068	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1068
1069	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1069
1070	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1070
1071	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1071
1072	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1072
1073	4-SoCal_Refineries (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1073
1077	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1077
1078	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1078
1079	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1079
1080	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1080

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1081	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1081
1082	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1082
1083	4-SoCal_Refineries (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1083
1087	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1087
1088	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1088
1089	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1089
1090	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1090
1091	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1091
1092	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1092
1093	4-SoCal_Refineries (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1093
1097	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1097
1098	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1098
1099	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1099
1100	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1100
1101	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1101
1102	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1102
1103	4-SoCal_Refineries (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1103
1107	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1107
1108	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1108
1109	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1109
1110	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1110
1111	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1111
1112	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1112
1113	4-SoCal_Refineries (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1113
1117	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1117
1118	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1118
1119	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1119
1120	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1120
1121	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1121
1122	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1122
1123	4-SoCal_Refineries (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1123
1127	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1127
1128	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1128
1129	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1129
1130	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1130
1131	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1131

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1132	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1132
1133	4-SoCal_Refineries (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1133
1137	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1137
1138	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1138
1139	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1139
1140	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1140
1141	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1141
1142	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1142
1143	4-SoCal_Refineries (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1143
1147	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1147
1148	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1148
1149	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1149
1150	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1150
1151	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1151
1152	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1152
1153	4-SoCal_Refineries (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1153
1297	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1297
1298	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1298
1299	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1299
1300	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1300
1301	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1301
1302	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1302
1303	5-SoCal_Refineries (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1303
1307	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1307
1308	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1308
1309	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1309
1310	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1310
1311	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1311
1312	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1312
1313	5-SoCal_Refineries (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1313
1317	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1317
1318	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1318
1319	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1319
1320	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1320
1321	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1321
1322	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1322

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1323	5-SoCal_Refineries (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1323
1327	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1327
1328	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1328
1329	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1329
1330	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1330
1331	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1331
1332	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1332
1333	5-SoCal_Refineries (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1333
1337	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1337
1338	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1338
1339	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1339
1340	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1340
1341	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1341
1342	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1342
1343	5-SoCal_Refineries (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1343
1347	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1347
1348	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1348
1349	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1349
1350	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1350
1351	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1351
1352	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1352
1353	5-SoCal_Refineries (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1353
1357	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1357
1358	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1358
1359	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1359
1360	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1360
1361	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1361
1362	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1362
1363	5-SoCal_Refineries (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1363
1367	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1367
1368	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1368
1369	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1369
1370	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1370
1371	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1371
1372	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1372
1373	5-SoCal_Refineries (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1373

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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1377	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1377
1378	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1378
1379	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1379
1380	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1380
1381	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1381
1382	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1382
1383	5-SoCal_Refineries (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1383
1387	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1387
1388	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1388
1389	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1389
1390	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1390
1391	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1391
1392	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1392
1393	5-SoCal_Refineries (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1393
1397	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1397
1398	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1398
1399	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1399
1400	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1400
1401	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1401
1402	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1402
1403	5-SoCal_Refineries (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1403
1407	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1407
1408	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1408
1409	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1409
1410	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1410
1411	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1411
1412	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1412
1413	5-SoCal_Refineries (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1413
1417	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1417
1418	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1418
1419	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1419
1420	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1420
1421	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1421
1422	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1422
1423	5-SoCal_Refineries (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1423
1427	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1427

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1428	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1428
1429	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1429
1430	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1430
1431	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1431
1432	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1432
1433	5-SoCal_Refineries (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1433
1437	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1437
1438	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1438
1439	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1439
1440	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1440
1441	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1441
1442	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1442
1443	5-SoCal_Refineries (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1443
1447	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1447
1448	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1448
1449	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1449
1450	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1450
1451	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1451
1452	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1452
1453	5-SoCal_Refineries (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1453
1597	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1597
1598	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1598
1599	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1599
1600	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1600
1601	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1601
1602	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1602
1603	6-SoCal_Refineries (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1603
1607	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1607
1608	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1608
1609	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1609
1610	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1610
1611	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1611
1612	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1612
1613	6-SoCal_Refineries (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1613
1617	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1617
1618	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1618

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1619	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1619
1620	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1620
1621	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1621
1622	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1622
1623	6-SoCal_Refineries (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1623
1627	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1627
1628	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1628
1629	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1629
1630	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1630
1631	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1631
1632	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1632
1633	6-SoCal_Refineries (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1633
1637	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1637
1638	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1638
1639	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1639
1640	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1640
1641	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1641
1642	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1642
1643	6-SoCal_Refineries (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1643
1647	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1647
1648	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1648
1649	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1649
1650	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1650
1651	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1651
1652	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1652
1653	6-SoCal_Refineries (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1653
1657	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1657
1658	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1658
1659	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1659
1660	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1660
1661	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1661
1662	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1662
1663	6-SoCal_Refineries (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1663
1667	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1667
1668	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1668
1669	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1669

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1670	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1670
1671	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1671
1672	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1672
1673	6-SoCal_Refineries (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1673
1677	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1677
1678	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1678
1679	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1679
1680	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1680
1681	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1681
1682	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1682
1683	6-SoCal_Refineries (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1683
1687	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1687
1688	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1688
1689	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1689
1690	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1690
1691	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1691
1692	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1692
1693	6-SoCal_Refineries (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1693
1697	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1697
1698	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1698
1699	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1699
1700	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1700
1701	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1701
1702	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1702
1703	6-SoCal_Refineries (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1703
1707	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1707
1708	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1708
1709	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1709
1710	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1710
1711	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1711
1712	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1712
1713	6-SoCal_Refineries (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1713
1717	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1717
1718	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1718
1719	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1719
1720	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1720

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1721	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1721
1722	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1722
1723	6-SoCal_Refineries (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1723
1727	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1727
1728	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1728
1729	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1729
1730	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1730
1731	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1731
1732	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1732
1733	6-SoCal_Refineries (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1733
1737	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1737
1738	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1738
1739	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1739
1740	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1740
1741	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1741
1742	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1742
1743	6-SoCal_Refineries (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1743
1747	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1747
1748	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1748
1749	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1749
1750	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1750
1751	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1751
1752	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1752
1753	6-SoCal_Refineries (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1753
1897	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1897
1898	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1898
1899	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1899
1900	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1900
1901	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1901
1902	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1902
1903	7-SoCal_Refineries (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1903
1907	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1907
1908	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1908
1909	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1909
1910	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1910
1911	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1911

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1912	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1912
1913	7-SoCal_Refineries (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1913
1917	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1917
1918	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1918
1919	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1919
1920	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1920
1921	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1921
1922	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1922
1923	7-SoCal_Refineries (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1923
1927	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1927
1928	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1928
1929	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1929
1930	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1930
1931	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1931
1932	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1932
1933	7-SoCal_Refineries (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1933
1937	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1937
1938	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1938
1939	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1939
1940	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1940
1941	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1941
1942	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1942
1943	7-SoCal_Refineries (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1943
1947	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1947
1948	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1948
1949	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1949
1950	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1950
1951	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1951
1952	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1952
1953	7-SoCal_Refineries (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1953
1957	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1957
1958	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1958
1959	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1959
1960	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1960
1961	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1961
1962	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1962

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
1963	7-SoCal_Refineries (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1963
1967	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1967
1968	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1968
1969	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1969
1970	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1970
1971	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1971
1972	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1972
1973	7-SoCal_Refineries (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1973
1977	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1977
1978	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1978
1979	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1979
1980	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1980
1981	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1981
1982	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1982
1983	7-SoCal_Refineries (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1983
1987	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1987
1988	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1988
1989	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1989
1990	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1990
1991	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1991
1992	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1992
1993	7-SoCal_Refineries (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1993
1997	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1997
1998	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1998
1999	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1999
2000	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2000
2001	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2001
2002	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2002
2003	7-SoCal_Refineries (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2003
2007	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2007
2008	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2008
2009	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2009
2010	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2010
2011	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2011
2012	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2012
2013	7-SoCal_Refineries (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2013

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2017	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2017
2018	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2018
2019	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2019
2020	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2020
2021	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2021
2022	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2022
2023	7-SoCal_Refineries (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2023
2027	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2027
2028	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2028
2029	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2029
2030	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2030
2031	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2031
2032	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2032
2033	7-SoCal_Refineries (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2033
2037	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2037
2038	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2038
2039	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2039
2040	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2040
2041	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2041
2042	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2042
2043	7-SoCal_Refineries (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2043
2047	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2047
2048	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2048
2049	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2049
2050	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2050
2051	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2051
2052	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2052
2053	7-SoCal_Refineries (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2053
2197	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2197
2198	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2198
2199	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2199
2200	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2200
2201	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2201
2202	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2202
2203	8-SoCal_Refineries (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2203
2207	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2207

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2208	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2208
2209	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2209
2210	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2210
2211	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2211
2212	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2212
2213	8-SoCal_Refineries (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2213
2217	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2217
2218	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2218
2219	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2219
2220	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2220
2221	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2221
2222	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2222
2223	8-SoCal_Refineries (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2223
2227	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2227
2228	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2228
2229	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2229
2230	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2230
2231	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2231
2232	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2232
2233	8-SoCal_Refineries (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2233
2237	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2237
2238	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2238
2239	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2239
2240	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2240
2241	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2241
2242	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2242
2243	8-SoCal_Refineries (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2243
2247	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2247
2248	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2248
2249	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2249
2250	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2250
2251	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2251
2252	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2252
2253	8-SoCal_Refineries (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2253
2257	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2257
2258	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2258

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2259	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2259
2260	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2260
2261	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2261
2262	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2262
2263	8-SoCal_Refineries (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2263
2267	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2267
2268	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2268
2269	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2269
2270	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2270
2271	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2271
2272	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2272
2273	8-SoCal_Refineries (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2273
2277	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2277
2278	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2278
2279	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2279
2280	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2280
2281	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2281
2282	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2282
2283	8-SoCal_Refineries (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2283
2287	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2287
2288	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2288
2289	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2289
2290	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2290
2291	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2291
2292	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2292
2293	8-SoCal_Refineries (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2293
2297	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2297
2298	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2298
2299	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2299
2300	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2300
2301	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2301
2302	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2302
2303	8-SoCal_Refineries (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2303
2307	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2307
2308	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2308
2309	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2309

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2310	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2310
2311	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2311
2312	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2312
2313	8-SoCal_Refineries (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2313
2317	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2317
2318	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2318
2319	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2319
2320	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2320
2321	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2321
2322	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2322
2323	8-SoCal_Refineries (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2323
2327	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2327
2328	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2328
2329	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2329
2330	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2330
2331	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2331
2332	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2332
2333	8-SoCal_Refineries (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2333
2337	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2337
2338	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2338
2339	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2339
2340	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2340
2341	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2341
2342	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2342
2343	8-SoCal_Refineries (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2343
2347	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2347
2348	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2348
2349	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2349
2350	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2350
2351	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2351
2352	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2352
2353	8-SoCal_Refineries (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2353
2497	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2497
2498	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	13893269.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2498
2499	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2499
2500	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2500

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2501	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2501
2502	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2502
2503	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2503
2507	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2507
2508	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	16121807.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2508
2509	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2509
2510	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2510
2511	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2511
2512	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2512
2513	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2513
2517	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2517
2518	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	18069173.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2518
2519	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2519
2520	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2520
2521	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2521
2522	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2522
2523	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2523
2527	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2527
2528	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	19986972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2528
2529	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2529
2530	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2530
2531	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2531
2532	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2532
2533	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2533
2537	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2537
2538	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	21797159.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2538
2539	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2539
2540	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2540
2541	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2541
2542	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2542
2543	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2543
2547	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2547
2548	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	23325367.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2548
2549	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2549
2550	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2550
2551	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2551

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2552	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2552
2553	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2553
2557	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2557
2558	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	24103493.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2558
2559	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2559
2560	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2560
2561	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2561
2562	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2562
2563	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2563
2567	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2567
2568	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	26350860.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2568
2569	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2569
2570	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2570
2571	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2571
2572	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2572
2573	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2573
2577	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2577
2578	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	27461405.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2578
2579	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2579
2580	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2580
2581	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2581
2582	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2582
2583	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2583
2587	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2587
2588	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	28534687.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2588
2589	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2589
2590	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2590
2591	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2591
2592	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2592
2593	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2593
2597	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2597
2598	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	29776846.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2598
2599	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2599
2600	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2600
2601	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2601
2602	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2602

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2603	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2603
2607	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2607
2608	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	30602050.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2608
2609	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2609
2610	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2610
2611	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2611
2612	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2612
2613	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2613
2617	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2617
2618	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	31563170.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2618
2619	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2619
2620	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2620
2621	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2621
2622	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2622
2623	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2623
2627	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2627
2628	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	32724765.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2628
2629	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2629
2630	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2630
2631	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2631
2632	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2632
2633	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2633
2637	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2637
2638	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	33632829.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2638
2639	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2639
2640	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2640
2641	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2641
2642	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2642
2643	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2643
2647	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	21.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2647
2648	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	34531602.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2648
2649	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2649
2650	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2650
2651	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2651
2652	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2652
2653	9-SoCal_Refineries (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2653

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
2797	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2797
2798	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	13893269.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2798
2799	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2799
2800	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2800
2801	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2801
2802	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2802
2803	10-SoCal_Refineries (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2803
2807	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2807
2808	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	16121807.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2808
2809	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2809
2810	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2810
2811	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2811
2812	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2812
2813	10-SoCal_Refineries (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2813
2817	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2817
2818	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	18069173.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2818
2819	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2819
2820	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2820
2821	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2821
2822	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2822
2823	10-SoCal_Refineries (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2823
2827	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2827
2828	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	19986972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2828
2829	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2829
2830	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2830
2831	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2831
2832	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2832
2833	10-SoCal_Refineries (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2833
2837	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2837
2838	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	21797159.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2838
2839	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2839
2840	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2840
2841	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2841
2842	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2842
2843	10-SoCal_Refineries (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2843
2847	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2847

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2848	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	23325367.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2848
2849	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2849
2850	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2850
2851	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2851
2852	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2852
2853	10-SoCal_Refineries (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2853
2857	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2857
2858	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	24103493.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2858
2859	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2859
2860	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2860
2861	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2861
2862	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2862
2863	10-SoCal_Refineries (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2863
2867	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2867
2868	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	26350860.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2868
2869	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2869
2870	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2870
2871	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2871
2872	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2872
2873	10-SoCal_Refineries (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2873
2877	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2877
2878	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	27461405.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2878
2879	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2879
2880	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2880
2881	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2881
2882	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2882
2883	10-SoCal_Refineries (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2883
2887	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2887
2888	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	28534687.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2888
2889	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2889
2890	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2890
2891	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2891
2892	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2892
2893	10-SoCal_Refineries (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2893
2897	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2897
2898	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	29776846.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2898

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2899	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2899
2900	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2900
2901	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2901
2902	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2902
2903	10-SoCal_Refineries (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2903
2907	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2907
2908	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	30602050.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2908
2909	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2909
2910	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2910
2911	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2911
2912	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2912
2913	10-SoCal_Refineries (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2913
2917	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2917
2918	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	31563170.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2918
2919	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2919
2920	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2920
2921	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2921
2922	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2922
2923	10-SoCal_Refineries (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2923
2927	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2927
2928	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	32724765.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2928
2929	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2929
2930	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2930
2931	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2931
2932	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2932
2933	10-SoCal_Refineries (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2933
2937	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2937
2938	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	33632829.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2938
2939	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2939
2940	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2940
2941	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2941
2942	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2942
2943	10-SoCal_Refineries (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2943
2947	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2947
2948	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	34531602.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2948
2949	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2949

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
2950	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2950
2951	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2951
2952	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2952
2953	10-SoCal_Refineries (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV2953
3097	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3097
3098	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	13893269.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3098
3099	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3099
3100	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3100
3101	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3101
3102	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3102
3103	11-SoCal_Refineries (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3103
3107	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3107
3108	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	16121807.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3108
3109	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3109
3110	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3110
3111	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3111
3112	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3112
3113	11-SoCal_Refineries (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3113
3117	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3117
3118	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	18069173.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3118
3119	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3119
3120	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3120
3121	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3121
3122	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3122
3123	11-SoCal_Refineries (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3123
3127	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3127
3128	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	19986972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3128
3129	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3129
3130	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3130
3131	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3131
3132	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3132
3133	11-SoCal_Refineries (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3133
3137	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3137
3138	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	21797159.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3138
3139	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3139
3140	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3140

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3141	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3141
3142	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3142
3143	11-SoCal_Refineries (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3143
3147	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3147
3148	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	23325367.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3148
3149	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3149
3150	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3150
3151	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3151
3152	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3152
3153	11-SoCal_Refineries (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3153
3157	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3157
3158	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	24103493.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3158
3159	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3159
3160	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3160
3161	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3161
3162	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3162
3163	11-SoCal_Refineries (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3163
3167	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3167
3168	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	26350860.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3168
3169	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3169
3170	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3170
3171	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3171
3172	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3172
3173	11-SoCal_Refineries (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3173
3177	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3177
3178	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	27461405.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3178
3179	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3179
3180	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3180
3181	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3181
3182	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3182
3183	11-SoCal_Refineries (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3183
3187	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3187
3188	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	28534687.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3188
3189	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3189
3190	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3190
3191	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3191

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3192	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3192
3193	11-SoCal_Refineries (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3193
3197	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3197
3198	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	29776846.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3198
3199	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3199
3200	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3200
3201	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3201
3202	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3202
3203	11-SoCal_Refineries (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3203
3207	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3207
3208	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	30602050.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3208
3209	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3209
3210	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3210
3211	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3211
3212	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3212
3213	11-SoCal_Refineries (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3213
3217	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3217
3218	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	31563170.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3218
3219	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3219
3220	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3220
3221	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3221
3222	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3222
3223	11-SoCal_Refineries (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3223
3227	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3227
3228	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	32724765.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3228
3229	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3229
3230	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3230
3231	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3231
3232	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3232
3233	11-SoCal_Refineries (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3233
3237	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3237
3238	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	33632829.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3238
3239	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3239
3240	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3240
3241	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3241
3242	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3242

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3243	11-SoCal_Refineries (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3243
3247	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3247
3248	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	34531602.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3248
3249	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3249
3250	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3250
3251	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3251
3252	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3252
3253	11-SoCal_Refineries (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3253
3397	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3397
3398	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	13893269.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3398
3399	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3399
3400	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3400
3401	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119920546.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3401
3402	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3402
3403	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3403
3407	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3407
3408	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	16121807.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3408
3409	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3409
3410	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3410
3411	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	119578262.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3411
3412	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3412
3413	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3413
3417	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3417
3418	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	18069173.76	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3418
3419	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3419
3420	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3420
3421	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	118220721.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3421
3422	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3422
3423	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3423
3427	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3427
3428	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	19986972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3428
3429	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3429
3430	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3430
3431	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117596313.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3431
3432	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3432
3433	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3433

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3437	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3437
3438	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	21797159.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3438
3439	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3439
3440	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3440
3441	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	117046363.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3441
3442	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3442
3443	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3443
3447	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3447
3448	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	23325367.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3448
3449	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3449
3450	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3450
3451	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	115656653.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3451
3452	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3452
3453	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3453
3457	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3457
3458	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	24103493.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3458
3459	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3459
3460	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3460
3461	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406622.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3461
3462	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3462
3463	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3463
3467	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3467
3468	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	26350860.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3468
3469	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3469
3470	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3470
3471	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	114419638.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3471
3472	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3472
3473	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3473
3477	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3477
3478	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	27461405.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3478
3479	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3479
3480	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3480
3481	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	112756225.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3481
3482	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3482
3483	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3483
3487	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3487

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3488	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	28534687.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3488
3489	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3489
3490	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3490
3491	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	111406870.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3491
3492	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3492
3493	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3493
3497	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3497
3498	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	29776846.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3498
3499	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3499
3500	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3500
3501	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	110759064.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3501
3502	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3502
3503	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3503
3507	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3507
3508	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	30602050.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3508
3509	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3509
3510	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3510
3511	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	108931199.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3511
3512	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3512
3513	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3513
3517	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3517
3518	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	31563170.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3518
3519	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3519
3520	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3520
3521	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107937336.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3521
3522	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3522
3523	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3523
3527	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3527
3528	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	32724765.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3528
3529	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3529
3530	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3530
3531	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107879260.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3531
3532	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3532
3533	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3533
3537	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3537
3538	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	33632829.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3538

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3539	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3539
3540	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3540
3541	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	107202151.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3541
3542	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3542
3543	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3543
3547	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	78.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3547
3548	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	34531602.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3548
3549	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3549
3550	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3550
3551	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	106708338.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3551
3552	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3552
3553	12-SoCal_Refineries (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3553
3697	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3697
3698	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1338727.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3698
3699	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3699
3700	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3700
3701	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3701
3702	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3702
3703	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3703
3707	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3707
3708	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1537080.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3708
3709	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3709
3710	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3710
3711	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3711
3712	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3712
3713	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3713
3717	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3717
3718	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1720576.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3718
3719	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3719
3720	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3720
3721	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3721
3722	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3722
3723	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3723
3727	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3727
3728	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1889746.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3728
3729	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3729

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3730	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3730
3731	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3731
3732	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3732
3733	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3733
3737	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3737
3738	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2045242.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3738
3739	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3739
3740	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3740
3741	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3741
3742	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3742
3743	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3743
3747	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3747
3748	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2187824.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3748
3749	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3749
3750	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3750
3751	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3751
3752	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3752
3753	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3753
3757	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3757
3758	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2318333.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3758
3759	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3759
3760	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3760
3761	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3761
3762	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3762
3763	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3763
3767	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3767
3768	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2437654.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3768
3769	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3769
3770	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3770
3771	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3771
3772	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3772
3773	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3773
3777	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3777
3778	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2546684.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3778
3779	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3779
3780	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3780

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3781	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3781
3782	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3782
3783	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3783
3787	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3787
3788	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2646305.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3788
3789	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3789
3790	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3790
3791	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3791
3792	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3792
3793	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3793
3797	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3797
3798	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2803821.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3798
3799	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3799
3800	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3800
3801	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3801
3802	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3802
3803	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3803
3807	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3807
3808	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2948883.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3808
3809	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3809
3810	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3810
3811	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3811
3812	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3812
3813	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3813
3817	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3817
3818	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3082543.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3818
3819	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3819
3820	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3820
3821	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3821
3822	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3822
3823	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3823
3827	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3827
3828	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3205778.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3828
3829	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3829
3830	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3830
3831	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3831

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
3832	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3832
3833	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3833
3837	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3837
3838	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3319485.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3838
3839	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3839
3840	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3840
3841	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3841
3842	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3842
3843	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3843
3847	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3847
3848	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3424484.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3848
3849	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3849
3850	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3850
3851	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3851
3852	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3852
3853	13-SoCal_FoodBeverage (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3853
3997	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3997
3998	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1338727.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3998
3999	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV3999
4000	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4000
4001	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4001
4002	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4002
4003	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4003
4007	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4007
4008	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1537080.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4008
4009	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4009
4010	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4010
4011	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4011
4012	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4012
4013	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4013
4017	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4017
4018	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1720576.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4018
4019	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4019
4020	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4020
4021	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4021
4022	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4022

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4023	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4023
4027	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4027
4028	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1889746.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4028
4029	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4029
4030	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4030
4031	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4031
4032	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4032
4033	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4033
4037	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4037
4038	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2045242.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4038
4039	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4039
4040	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4040
4041	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4041
4042	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4042
4043	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4043
4047	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4047
4048	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2187824.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4048
4049	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4049
4050	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4050
4051	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4051
4052	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4052
4053	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4053
4057	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4057
4058	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2318333.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4058
4059	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4059
4060	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4060
4061	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4061
4062	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4062
4063	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4063
4067	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4067
4068	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2437654.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4068
4069	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4069
4070	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4070
4071	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4071
4072	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4072
4073	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4073

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4077	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4077
4078	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2546684.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4078
4079	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4079
4080	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4080
4081	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4081
4082	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4082
4083	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4083
4087	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4087
4088	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2646305.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4088
4089	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4089
4090	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4090
4091	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4091
4092	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4092
4093	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4093
4097	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4097
4098	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2803821.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4098
4099	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4099
4100	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4100
4101	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4101
4102	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4102
4103	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4103
4107	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4107
4108	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2948883.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4108
4109	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4109
4110	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4110
4111	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4111
4112	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4112
4113	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4113
4117	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4117
4118	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3082543.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4118
4119	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4119
4120	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4120
4121	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4121
4122	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4122
4123	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4123
4127	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4127

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4128	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3205778.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4128
4129	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4129
4130	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4130
4131	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4131
4132	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4132
4133	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4133
4137	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4137
4138	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3319485.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4138
4139	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4139
4140	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4140
4141	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4141
4142	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4142
4143	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4143
4147	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4147
4148	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3424484.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4148
4149	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4149
4150	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4150
4151	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4151
4152	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4152
4153	14-SoCal_FoodBeverage (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4153
4297	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4297
4298	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1338727.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4298
4299	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4299
4300	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4300
4301	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4301
4302	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4302
4303	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4303
4307	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4307
4308	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1537080.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4308
4309	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4309
4310	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4310
4311	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4311
4312	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4312
4313	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4313
4317	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4317
4318	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1720576.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4318

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4319	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4319
4320	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4320
4321	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4321
4322	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4322
4323	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4323
4327	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4327
4328	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1889746.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4328
4329	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4329
4330	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4330
4331	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4331
4332	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4332
4333	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4333
4337	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4337
4338	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2045242.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4338
4339	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4339
4340	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4340
4341	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4341
4342	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4342
4343	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4343
4347	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4347
4348	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2187824.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4348
4349	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4349
4350	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4350
4351	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4351
4352	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4352
4353	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4353
4357	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4357
4358	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2318333.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4358
4359	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4359
4360	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4360
4361	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4361
4362	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4362
4363	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4363
4367	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4367
4368	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2437654.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4368
4369	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4369

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4370	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4370
4371	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4371
4372	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4372
4373	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4373
4377	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4377
4378	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2546684.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4378
4379	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4379
4380	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4380
4381	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4381
4382	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4382
4383	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4383
4387	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4387
4388	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2646305.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4388
4389	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4389
4390	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4390
4391	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4391
4392	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4392
4393	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4393
4397	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4397
4398	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2803821.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4398
4399	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4399
4400	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4400
4401	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4401
4402	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4402
4403	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4403
4407	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4407
4408	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2948883.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4408
4409	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4409
4410	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4410
4411	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4411
4412	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4412
4413	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4413
4417	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4417
4418	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3082543.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4418
4419	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4419
4420	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4420

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4421	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4421
4422	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4422
4423	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4423
4427	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4427
4428	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3205778.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4428
4429	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4429
4430	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4430
4431	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4431
4432	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4432
4433	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4433
4437	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4437
4438	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3319485.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4438
4439	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4439
4440	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4440
4441	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4441
4442	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4442
4443	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4443
4447	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4447
4448	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3424484.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4448
4449	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4449
4450	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4450
4451	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4451
4452	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4452
4453	15-SoCal_FoodBeverage (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4453
4597	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4597
4598	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1338727.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4598
4599	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4599
4600	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4600
4601	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4601
4602	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4602
4603	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4603
4607	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4607
4608	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1537080.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4608
4609	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4609
4610	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4610
4611	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4611

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4612	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4612
4613	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4613
4617	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4617
4618	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1720576.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4618
4619	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4619
4620	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4620
4621	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4621
4622	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4622
4623	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4623
4627	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4627
4628	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1889746.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4628
4629	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4629
4630	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4630
4631	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4631
4632	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4632
4633	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4633
4637	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4637
4638	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2045242.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4638
4639	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4639
4640	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4640
4641	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4641
4642	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4642
4643	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4643
4647	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4647
4648	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2187824.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4648
4649	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4649
4650	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4650
4651	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4651
4652	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4652
4653	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4653
4657	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4657
4658	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2318333.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4658
4659	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4659
4660	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4660
4661	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4661
4662	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4662

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4663	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4663
4667	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4667
4668	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2437654.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4668
4669	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4669
4670	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4670
4671	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4671
4672	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4672
4673	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4673
4677	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4677
4678	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2546684.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4678
4679	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4679
4680	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4680
4681	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4681
4682	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4682
4683	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4683
4687	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4687
4688	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2646305.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4688
4689	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4689
4690	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4690
4691	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4691
4692	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4692
4693	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4693
4697	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4697
4698	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2803821.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4698
4699	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4699
4700	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4700
4701	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4701
4702	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4702
4703	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4703
4707	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4707
4708	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2948883.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4708
4709	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4709
4710	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4710
4711	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4711
4712	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4712
4713	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4713

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4717	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4717
4718	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3082543.87	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4718
4719	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4719
4720	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4720
4721	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4721
4722	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4722
4723	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4723
4727	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4727
4728	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3205778.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4728
4729	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4729
4730	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4730
4731	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4731
4732	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4732
4733	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4733
4737	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4737
4738	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3319485.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4738
4739	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4739
4740	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4740
4741	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4741
4742	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4742
4743	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4743
4747	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4747
4748	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3424484.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4748
4749	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4749
4750	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4750
4751	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4751
4752	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4752
4753	16-SoCal_FoodBeverage (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4753
4897	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4897
4898	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4898
4899	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4899
4900	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4900
4901	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4901
4902	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4902
4903	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4903
4907	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4907

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
4908	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4908
4909	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4909
4910	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4910
4911	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4911
4912	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4912
4913	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4913
4917	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4917
4918	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4918
4919	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4919
4920	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4920
4921	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4921
4922	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4922
4923	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4923
4927	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4927
4928	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4928
4929	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4929
4930	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4930
4931	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4931
4932	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4932
4933	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4933
4937	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4937
4938	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4938
4939	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4939
4940	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4940
4941	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4941
4942	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4942
4943	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4943
4947	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4947
4948	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4948
4949	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4949
4950	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4950
4951	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4951
4952	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4952
4953	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4953
4957	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4957
4958	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4958

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2	**Tab Contents**				
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5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4959	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4959
4960	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4960
4961	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4961
4962	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4962
4963	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4963
4967	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4967
4968	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4968
4969	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4969
4970	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4970
4971	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4971
4972	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4972
4973	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4973
4977	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4977
4978	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4978
4979	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4979
4980	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4980
4981	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4981
4982	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4982
4983	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4983
4987	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4987
4988	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4988
4989	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4989
4990	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4990
4991	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4991
4992	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4992
4993	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4993
4997	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4997
4998	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4998
4999	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV4999
5000	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5000
5001	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5001
5002	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5002
5003	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5003
5007	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5007
5008	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5008
5009	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5009

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5010	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5010
5011	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5011
5012	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5012
5013	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5013
5017	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5017
5018	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5018
5019	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5019
5020	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5020
5021	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5021
5022	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5022
5023	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5023
5027	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5027
5028	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5028
5029	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5029
5030	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5030
5031	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5031
5032	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5032
5033	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5033
5037	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5037
5038	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5038
5039	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5039
5040	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5040
5041	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5041
5042	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5042
5043	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5043
5047	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5047
5048	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5048
5049	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5049
5050	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5050
5051	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5051
5052	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5052
5053	17-SoCal_FoodBeverage (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5053
5197	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5197
5198	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5198
5199	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5199
5200	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5200

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5201	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5201
5202	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5202
5203	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5203
5207	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5207
5208	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5208
5209	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5209
5210	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5210
5211	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5211
5212	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5212
5213	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5213
5217	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5217
5218	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5218
5219	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5219
5220	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5220
5221	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5221
5222	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5222
5223	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5223
5227	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5227
5228	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5228
5229	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5229
5230	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5230
5231	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5231
5232	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5232
5233	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5233
5237	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5237
5238	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5238
5239	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5239
5240	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5240
5241	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5241
5242	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5242
5243	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5243
5247	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5247
5248	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5248
5249	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5249
5250	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5250
5251	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5251

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5252	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5252
5253	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5253
5257	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5257
5258	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5258
5259	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5259
5260	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5260
5261	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5261
5262	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5262
5263	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5263
5267	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5267
5268	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5268
5269	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5269
5270	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5270
5271	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5271
5272	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5272
5273	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5273
5277	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5277
5278	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5278
5279	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5279
5280	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5280
5281	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5281
5282	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5282
5283	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5283
5287	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5287
5288	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5288
5289	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5289
5290	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5290
5291	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5291
5292	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5292
5293	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5293
5297	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5297
5298	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5298
5299	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5299
5300	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5300
5301	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5301
5302	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5302

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5303	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5303
5307	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5307
5308	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5308
5309	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5309
5310	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5310
5311	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5311
5312	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5312
5313	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5313
5317	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5317
5318	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5318
5319	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5319
5320	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5320
5321	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5321
5322	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5322
5323	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5323
5327	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5327
5328	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5328
5329	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5329
5330	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5330
5331	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5331
5332	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5332
5333	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5333
5337	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5337
5338	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5338
5339	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5339
5340	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5340
5341	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5341
5342	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5342
5343	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5343
5347	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5347
5348	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5348
5349	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5349
5350	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5350
5351	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5351
5352	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5352
5353	18-SoCal_FoodBeverage (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5353

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5497	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5497
5498	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5498
5499	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5499
5500	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5500
5501	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5501
5502	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5502
5503	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5503
5507	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5507
5508	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5508
5509	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5509
5510	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5510
5511	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5511
5512	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5512
5513	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5513
5517	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5517
5518	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5518
5519	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5519
5520	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5520
5521	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5521
5522	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5522
5523	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5523
5527	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5527
5528	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5528
5529	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5529
5530	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5530
5531	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5531
5532	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5532
5533	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5533
5537	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5537
5538	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5538
5539	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5539
5540	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5540
5541	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5541
5542	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5542
5543	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5543
5547	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5547

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5548	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5548
5549	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5549
5550	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5550
5551	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5551
5552	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5552
5553	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5553
5557	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5557
5558	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5558
5559	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5559
5560	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5560
5561	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5561
5562	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5562
5563	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5563
5567	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5567
5568	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5568
5569	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5569
5570	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5570
5571	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5571
5572	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5572
5573	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5573
5577	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5577
5578	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5578
5579	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5579
5580	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5580
5581	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5581
5582	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5582
5583	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5583
5587	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5587
5588	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5588
5589	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5589
5590	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5590
5591	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5591
5592	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5592
5593	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5593
5597	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5597
5598	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5598

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5599	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5599
5600	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5600
5601	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5601
5602	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5602
5603	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5603
5607	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5607
5608	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5608
5609	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5609
5610	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5610
5611	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5611
5612	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5612
5613	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5613
5617	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5617
5618	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5618
5619	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5619
5620	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5620
5621	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5621
5622	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5622
5623	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5623
5627	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5627
5628	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5628
5629	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5629
5630	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5630
5631	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5631
5632	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5632
5633	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5633
5637	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5637
5638	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5638
5639	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5639
5640	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5640
5641	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5641
5642	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5642
5643	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5643
5647	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5647
5648	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5648
5649	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5649

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5650	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5650
5651	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5651
5652	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5652
5653	19-SoCal_FoodBeverage (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5653
5797	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5797
5798	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5798
5799	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5799
5800	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5800
5801	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5801
5802	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5802
5803	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5803
5807	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5807
5808	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5808
5809	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5809
5810	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5810
5811	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5811
5812	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5812
5813	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5813
5817	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5817
5818	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5818
5819	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5819
5820	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5820
5821	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5821
5822	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5822
5823	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5823
5827	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5827
5828	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5828
5829	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5829
5830	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5830
5831	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5831
5832	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5832
5833	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5833
5837	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5837
5838	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5838
5839	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5839
5840	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5840

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5841	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5841
5842	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5842
5843	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5843
5847	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5847
5848	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5848
5849	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5849
5850	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5850
5851	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5851
5852	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5852
5853	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5853
5857	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5857
5858	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5858
5859	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5859
5860	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5860
5861	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5861
5862	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5862
5863	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5863
5867	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5867
5868	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5868
5869	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5869
5870	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5870
5871	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5871
5872	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5872
5873	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5873
5877	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5877
5878	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5878
5879	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5879
5880	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5880
5881	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5881
5882	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5882
5883	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5883
5887	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5887
5888	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5888
5889	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5889
5890	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5890
5891	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5891

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5892	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5892
5893	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5893
5897	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5897
5898	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5898
5899	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5899
5900	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5900
5901	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5901
5902	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5902
5903	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5903
5907	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5907
5908	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5908
5909	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5909
5910	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5910
5911	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5911
5912	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5912
5913	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5913
5917	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5917
5918	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5918
5919	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5919
5920	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5920
5921	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5921
5922	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5922
5923	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5923
5927	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5927
5928	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5928
5929	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5929
5930	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5930
5931	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5931
5932	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5932
5933	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5933
5937	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5937
5938	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5938
5939	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5939
5940	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5940
5941	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5941
5942	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5942

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
5943	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5943
5947	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5947
5948	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5948
5949	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5949
5950	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5950
5951	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5951
5952	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5952
5953	20-SoCal_FoodBeverage (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5953
6097	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6097
6098	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6098
6099	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6099
6100	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6100
6101	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6101
6102	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6102
6103	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6103
6107	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6107
6108	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6108
6109	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6109
6110	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6110
6111	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6111
6112	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6112
6113	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6113
6117	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6117
6118	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6118
6119	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6119
6120	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6120
6121	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6121
6122	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6122
6123	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6123
6127	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6127
6128	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6128
6129	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6129
6130	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6130
6131	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6131
6132	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6132
6133	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6133

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6137	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6137
6138	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6138
6139	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6139
6140	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6140
6141	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6141
6142	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6142
6143	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6143
6147	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6147
6148	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6148
6149	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6149
6150	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6150
6151	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6151
6152	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6152
6153	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6153
6157	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6157
6158	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6158
6159	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6159
6160	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6160
6161	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6161
6162	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6162
6163	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6163
6167	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6167
6168	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6168
6169	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6169
6170	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6170
6171	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6171
6172	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6172
6173	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6173
6177	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6177
6178	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6178
6179	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6179
6180	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6180
6181	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6181
6182	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6182
6183	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6183
6187	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6187

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6188	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6188
6189	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6189
6190	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6190
6191	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6191
6192	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6192
6193	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6193
6197	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6197
6198	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6198
6199	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6199
6200	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6200
6201	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6201
6202	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6202
6203	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6203
6207	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6207
6208	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6208
6209	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6209
6210	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6210
6211	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6211
6212	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6212
6213	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6213
6217	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6217
6218	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6218
6219	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6219
6220	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6220
6221	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6221
6222	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6222
6223	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6223
6227	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6227
6228	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6228
6229	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6229
6230	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6230
6231	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6231
6232	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6232
6233	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6233
6237	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6237
6238	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6238

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6239	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6239
6240	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6240
6241	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6241
6242	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6242
6243	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6243
6247	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	98.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6247
6248	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6248
6249	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6249
6250	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6250
6251	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6251
6252	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6252
6253	21-SoCal_FoodBeverage (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6253
6397	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6397
6398	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6398
6399	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6399
6400	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6400
6401	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6401
6402	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6402
6403	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6403
6407	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6407
6408	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6408
6409	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6409
6410	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6410
6411	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6411
6412	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6412
6413	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6413
6417	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6417
6418	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6418
6419	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6419
6420	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6420
6421	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6421
6422	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6422
6423	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6423
6427	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6427
6428	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6428
6429	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6429

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6430	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6430
6431	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6431
6432	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6432
6433	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6433
6437	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6437
6438	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6438
6439	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6439
6440	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6440
6441	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6441
6442	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6442
6443	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6443
6447	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6447
6448	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6448
6449	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6449
6450	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6450
6451	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6451
6452	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6452
6453	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6453
6457	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6457
6458	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6458
6459	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6459
6460	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6460
6461	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6461
6462	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6462
6463	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6463
6467	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6467
6468	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6468
6469	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6469
6470	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6470
6471	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6471
6472	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6472
6473	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6473
6477	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6477
6478	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6478
6479	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6479
6480	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6480

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6481	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6481
6482	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6482
6483	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6483
6487	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6487
6488	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6488
6489	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6489
6490	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6490
6491	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6491
6492	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6492
6493	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6493
6497	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6497
6498	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6498
6499	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6499
6500	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6500
6501	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6501
6502	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6502
6503	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6503
6507	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6507
6508	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6508
6509	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6509
6510	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6510
6511	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6511
6512	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6512
6513	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6513
6517	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6517
6518	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6518
6519	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6519
6520	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6520
6521	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6521
6522	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6522
6523	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6523
6527	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6527
6528	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6528
6529	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6529
6530	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6530
6531	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6531

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6532	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6532
6533	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6533
6537	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6537
6538	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6538
6539	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6539
6540	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6540
6541	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6541
6542	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6542
6543	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6543
6547	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6547
6548	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6548
6549	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6549
6550	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6550
6551	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6551
6552	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6552
6553	22-SoCal_FoodBeverage (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6553
6697	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6697
6698	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6698
6699	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6699
6700	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6700
6701	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6701
6702	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6702
6703	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6703
6707	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6707
6708	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6708
6709	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6709
6710	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6710
6711	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6711
6712	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6712
6713	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6713
6717	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6717
6718	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6718
6719	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6719
6720	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6720
6721	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6721
6722	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6722

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6723	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6723
6727	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6727
6728	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6728
6729	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6729
6730	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6730
6731	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6731
6732	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6732
6733	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6733
6737	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6737
6738	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6738
6739	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6739
6740	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6740
6741	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6741
6742	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6742
6743	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6743
6747	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6747
6748	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6748
6749	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6749
6750	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6750
6751	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6751
6752	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6752
6753	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6753
6757	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6757
6758	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6758
6759	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6759
6760	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6760
6761	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6761
6762	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6762
6763	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6763
6767	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6767
6768	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6768
6769	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6769
6770	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6770
6771	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6771
6772	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6772
6773	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6773

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6777	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6777
6778	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6778
6779	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6779
6780	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6780
6781	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6781
6782	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6782
6783	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6783
6787	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6787
6788	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6788
6789	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6789
6790	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6790
6791	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6791
6792	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6792
6793	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6793
6797	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6797
6798	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6798
6799	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6799
6800	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6800
6801	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6801
6802	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6802
6803	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6803
6807	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6807
6808	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6808
6809	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6809
6810	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6810
6811	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6811
6812	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6812
6813	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6813
6817	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6817
6818	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6818
6819	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6819
6820	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6820
6821	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6821
6822	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6822
6823	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6823
6827	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6827

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
6828	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6828
6829	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6829
6830	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6830
6831	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6831
6832	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6832
6833	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6833
6837	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6837
6838	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6838
6839	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6839
6840	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6840
6841	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6841
6842	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6842
6843	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6843
6847	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	1.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6847
6848	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6848
6849	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6849
6850	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6850
6851	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6851
6852	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6852
6853	23-SoCal_FoodBeverage (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6853
6997	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6997
6998	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2790675.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6998
6999	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV6999
7000	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7000
7001	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20998808.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7001
7002	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7002
7003	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7003
7007	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7007
7008	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3290883.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7008
7009	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7009
7010	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7010
7011	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21193994.63	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7011
7012	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7012
7013	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7013
7017	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7017
7018	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3760664.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7018

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7019	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7019
7020	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7020
7021	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21323086.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7021
7022	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7022
7023	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7023
7027	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7027
7028	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4204771.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7028
7029	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7029
7030	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7030
7031	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21425777.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7031
7032	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7032
7033	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7033
7037	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7037
7038	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4633047.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7038
7039	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7039
7040	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7040
7041	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21549706.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7041
7042	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7042
7043	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7043
7047	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7047
7048	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5042861.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7048
7049	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7049
7050	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7050
7051	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21673963.65	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7051
7052	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7052
7053	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7053
7057	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7057
7058	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5428608.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7058
7059	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7059
7060	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7060
7061	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21772096.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7061
7062	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7062
7063	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7063
7067	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7067
7068	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5809861.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7068
7069	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7069

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7070	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7070
7071	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21919128.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7071
7072	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7072
7073	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7073
7077	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7077
7078	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6185478.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7078
7079	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7079
7080	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7080
7081	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22099868.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7081
7082	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7082
7083	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7083
7087	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7087
7088	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6543637.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7088
7089	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7089
7090	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7090
7091	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22266689.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7091
7092	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7092
7093	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7093
7097	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7097
7098	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	6983041.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7098
7099	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7099
7100	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7100
7101	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22440474.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7101
7102	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7102
7103	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7103
7107	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7107
7108	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7406713.97	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7108
7109	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7109
7110	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7110
7111	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22613434.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7111
7112	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7112
7113	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7113
7117	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7117
7118	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	7810297.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7118
7119	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7119
7120	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7120

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7121	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22770896.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7121
7122	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7122
7123	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7123
7127	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7127
7128	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8198878.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7128
7129	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7129
7130	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7130
7131	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22927071.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7131
7132	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7132
7133	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7133
7137	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7137
7138	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8564868.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7138
7139	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7139
7140	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7140
7141	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23059819.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7141
7142	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7142
7143	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7143
7147	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7147
7148	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	8910841.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7148
7149	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7149
7150	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7150
7151	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23176509.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7151
7152	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7152
7153	24-SoCal_FoodBeverage (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7153
7297	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7297
7298	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	893874.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7298
7299	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7299
7300	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7300
7301	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7301
7302	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7302
7303	25-SoCal_Metals (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7303
7307	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7307
7308	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1009132.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7308
7309	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7309
7310	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7310
7311	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7311

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7312	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7312
7313	25-SoCal_Metals (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7313
7317	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7317
7318	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1116892.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7318
7319	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7319
7320	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7320
7321	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7321
7322	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7322
7323	25-SoCal_Metals (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7323
7327	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7327
7328	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1217466.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7328
7329	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7329
7330	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7330
7331	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7331
7332	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7332
7333	25-SoCal_Metals (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7333
7337	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7337
7338	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1311201.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7338
7339	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7339
7340	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7340
7341	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7341
7342	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7342
7343	25-SoCal_Metals (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7343
7347	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7347
7348	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1398477.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7348
7349	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7349
7350	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7350
7351	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7351
7352	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7352
7353	25-SoCal_Metals (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7353
7357	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7357
7358	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1479692.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7358
7359	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7359
7360	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7360
7361	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7361
7362	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7362

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7363	25-SoCal_Metals (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7363
7367	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7367
7368	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1555254.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7368
7369	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7369
7370	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7370
7371	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7371
7372	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7372
7373	25-SoCal_Metals (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7373
7377	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7377
7378	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1625567.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7378
7379	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7379
7380	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7380
7381	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7381
7382	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7382
7383	25-SoCal_Metals (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7383
7387	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7387
7388	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1691025.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7388
7389	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7389
7390	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7390
7391	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7391
7392	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7392
7393	25-SoCal_Metals (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7393
7397	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7397
7398	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1753778.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7398
7399	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7399
7400	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7400
7401	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7401
7402	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7402
7403	25-SoCal_Metals (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7403
7407	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7407
7408	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1812300.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7408
7409	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7409
7410	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7410
7411	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7411
7412	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7412
7413	25-SoCal_Metals (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7413

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7417	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7417
7418	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1866921.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7418
7419	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7419
7420	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7420
7421	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7421
7422	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7422
7423	25-SoCal_Metals (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7423
7427	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7427
7428	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1917942.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7428
7429	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7429
7430	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7430
7431	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7431
7432	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7432
7433	25-SoCal_Metals (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7433
7437	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7437
7438	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1965639.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7438
7439	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7439
7440	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7440
7441	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7441
7442	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7442
7443	25-SoCal_Metals (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7443
7447	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7447
7448	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2010265.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7448
7449	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7449
7450	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7450
7451	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7451
7452	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7452
7453	25-SoCal_Metals (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7453
7597	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7597
7598	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	893874.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7598
7599	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7599
7600	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7600
7601	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7601
7602	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7602
7603	26-SoCal_Metals (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7603
7607	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7607

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7608	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1009132.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7608
7609	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7609
7610	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7610
7611	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7611
7612	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7612
7613	26-SoCal_Metals (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7613
7617	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7617
7618	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1116892.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7618
7619	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7619
7620	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7620
7621	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7621
7622	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7622
7623	26-SoCal_Metals (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7623
7627	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7627
7628	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1217466.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7628
7629	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7629
7630	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7630
7631	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7631
7632	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7632
7633	26-SoCal_Metals (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7633
7637	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7637
7638	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1311201.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7638
7639	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7639
7640	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7640
7641	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7641
7642	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7642
7643	26-SoCal_Metals (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7643
7647	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7647
7648	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1398477.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7648
7649	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7649
7650	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7650
7651	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7651
7652	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7652
7653	26-SoCal_Metals (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7653
7657	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7657
7658	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1479692.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7658

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7659	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7659
7660	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7660
7661	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7661
7662	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7662
7663	26-SoCal_Metals (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7663
7667	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7667
7668	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1555254.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7668
7669	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7669
7670	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7670
7671	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7671
7672	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7672
7673	26-SoCal_Metals (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7673
7677	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7677
7678	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1625567.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7678
7679	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7679
7680	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7680
7681	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7681
7682	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7682
7683	26-SoCal_Metals (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7683
7687	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7687
7688	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1691025.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7688
7689	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7689
7690	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7690
7691	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7691
7692	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7692
7693	26-SoCal_Metals (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7693
7697	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7697
7698	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1753778.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7698
7699	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7699
7700	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7700
7701	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7701
7702	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7702
7703	26-SoCal_Metals (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7703
7707	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7707
7708	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1812300.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7708
7709	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7709

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7710	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7710
7711	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7711
7712	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7712
7713	26-SoCal_Metals (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7713
7717	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7717
7718	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1866921.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7718
7719	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7719
7720	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7720
7721	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7721
7722	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7722
7723	26-SoCal_Metals (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7723
7727	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7727
7728	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1917942.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7728
7729	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7729
7730	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7730
7731	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7731
7732	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7732
7733	26-SoCal_Metals (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7733
7737	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7737
7738	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1965639.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7738
7739	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7739
7740	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7740
7741	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7741
7742	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7742
7743	26-SoCal_Metals (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7743
7747	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7747
7748	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2010265.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7748
7749	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7749
7750	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7750
7751	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7751
7752	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7752
7753	26-SoCal_Metals (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7753
7897	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7897
7898	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	893874.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7898
7899	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7899
7900	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7900

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7901	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7901
7902	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7902
7903	27-SoCal_Metals (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7903
7907	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7907
7908	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1009132.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7908
7909	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7909
7910	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7910
7911	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7911
7912	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7912
7913	27-SoCal_Metals (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7913
7917	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7917
7918	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1116892.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7918
7919	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7919
7920	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7920
7921	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7921
7922	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7922
7923	27-SoCal_Metals (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7923
7927	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7927
7928	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1217466.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7928
7929	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7929
7930	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7930
7931	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7931
7932	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7932
7933	27-SoCal_Metals (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7933
7937	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7937
7938	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1311201.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7938
7939	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7939
7940	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7940
7941	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7941
7942	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7942
7943	27-SoCal_Metals (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7943
7947	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7947
7948	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1398477.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7948
7949	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7949
7950	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7950
7951	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7951

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
7952	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7952
7953	27-SoCal_Metals (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7953
7957	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7957
7958	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1479692.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7958
7959	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7959
7960	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7960
7961	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7961
7962	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7962
7963	27-SoCal_Metals (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7963
7967	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7967
7968	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1555254.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7968
7969	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7969
7970	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7970
7971	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7971
7972	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7972
7973	27-SoCal_Metals (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7973
7977	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7977
7978	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1625567.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7978
7979	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7979
7980	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7980
7981	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7981
7982	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7982
7983	27-SoCal_Metals (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7983
7987	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7987
7988	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1691025.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7988
7989	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7989
7990	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7990
7991	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7991
7992	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7992
7993	27-SoCal_Metals (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7993
7997	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7997
7998	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1753778.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7998
7999	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV7999
8000	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8000
8001	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8001
8002	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8002

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8003	27-SoCal_Metals (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8003
8007	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8007
8008	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1812300.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8008
8009	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8009
8010	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8010
8011	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8011
8012	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8012
8013	27-SoCal_Metals (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8013
8017	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8017
8018	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1866921.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8018
8019	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8019
8020	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8020
8021	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8021
8022	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8022
8023	27-SoCal_Metals (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8023
8027	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8027
8028	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1917942.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8028
8029	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8029
8030	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8030
8031	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8031
8032	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8032
8033	27-SoCal_Metals (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8033
8037	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8037
8038	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1965639.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8038
8039	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8039
8040	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8040
8041	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8041
8042	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8042
8043	27-SoCal_Metals (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8043
8047	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8047
8048	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2010265.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8048
8049	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8049
8050	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8050
8051	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8051
8052	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8052
8053	27-SoCal_Metals (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8053

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8197	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8197
8198	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	893874.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8198
8199	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8199
8200	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8200
8201	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8201
8202	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8202
8203	28-SoCal_Metals (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8203
8207	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8207
8208	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1009132.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8208
8209	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8209
8210	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8210
8211	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8211
8212	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8212
8213	28-SoCal_Metals (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8213
8217	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8217
8218	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1116892.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8218
8219	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8219
8220	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8220
8221	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8221
8222	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8222
8223	28-SoCal_Metals (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8223
8227	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8227
8228	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1217466.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8228
8229	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8229
8230	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8230
8231	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8231
8232	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8232
8233	28-SoCal_Metals (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8233
8237	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8237
8238	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1311201.94	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8238
8239	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8239
8240	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8240
8241	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8241
8242	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8242
8243	28-SoCal_Metals (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8243
8247	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8247

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8248	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1398477.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8248
8249	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8249
8250	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8250
8251	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8251
8252	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8252
8253	28-SoCal_Metals (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8253
8257	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8257
8258	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1479692.48	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8258
8259	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8259
8260	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8260
8261	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8261
8262	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8262
8263	28-SoCal_Metals (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8263
8267	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8267
8268	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1555254.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8268
8269	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8269
8270	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8270
8271	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8271
8272	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8272
8273	28-SoCal_Metals (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8273
8277	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8277
8278	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1625567.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8278
8279	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8279
8280	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8280
8281	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8281
8282	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8282
8283	28-SoCal_Metals (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8283
8287	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8287
8288	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1691025.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8288
8289	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8289
8290	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8290
8291	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8291
8292	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8292
8293	28-SoCal_Metals (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8293
8297	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8297
8298	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1753778.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8298

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
8299	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8299
8300	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8300
8301	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8301
8302	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8302
8303	28-SoCal_Metals (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8303
8307	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8307
8308	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1812300.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8308
8309	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8309
8310	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8310
8311	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8311
8312	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8312
8313	28-SoCal_Metals (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8313
8317	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8317
8318	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1866921.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8318
8319	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8319
8320	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8320
8321	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8321
8322	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8322
8323	28-SoCal_Metals (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8323
8327	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8327
8328	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1917942.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8328
8329	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8329
8330	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8330
8331	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8331
8332	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8332
8333	28-SoCal_Metals (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8333
8337	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8337
8338	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1965639.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8338
8339	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8339
8340	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8340
8341	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8341
8342	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8342
8343	28-SoCal_Metals (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8343
8347	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8347
8348	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2010265.13	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8348
8349	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8349

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
8350	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8350
8351	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8351
8352	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8352
8353	28-SoCal_Metals (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8353
8497	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8497
8498	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8498
8499	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8499
8500	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8500
8501	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8501
8502	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8502
8503	29-SoCal_Metals (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8503
8507	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8507
8508	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8508
8509	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8509
8510	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8510
8511	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8511
8512	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8512
8513	29-SoCal_Metals (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8513
8517	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8517
8518	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8518
8519	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8519
8520	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8520
8521	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8521
8522	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8522
8523	29-SoCal_Metals (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8523
8527	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8527
8528	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8528
8529	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8529
8530	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8530
8531	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8531
8532	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8532
8533	29-SoCal_Metals (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8533
8537	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8537
8538	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8538
8539	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8539
8540	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8540

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8541	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8541
8542	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8542
8543	29-SoCal_Metals (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8543
8547	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8547
8548	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8548
8549	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8549
8550	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8550
8551	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8551
8552	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8552
8553	29-SoCal_Metals (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8553
8557	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8557
8558	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8558
8559	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8559
8560	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8560
8561	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8561
8562	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8562
8563	29-SoCal_Metals (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8563
8567	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8567
8568	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8568
8569	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8569
8570	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8570
8571	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8571
8572	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8572
8573	29-SoCal_Metals (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8573
8577	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8577
8578	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8578
8579	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8579
8580	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8580
8581	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8581
8582	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8582
8583	29-SoCal_Metals (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8583
8587	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8587
8588	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8588
8589	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8589
8590	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8590
8591	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8591

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8592	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8592
8593	29-SoCal_Metals (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8593
8597	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8597
8598	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8598
8599	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8599
8600	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8600
8601	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8601
8602	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8602
8603	29-SoCal_Metals (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8603
8607	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8607
8608	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8608
8609	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8609
8610	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8610
8611	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8611
8612	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8612
8613	29-SoCal_Metals (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8613
8617	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8617
8618	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8618
8619	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8619
8620	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8620
8621	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8621
8622	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8622
8623	29-SoCal_Metals (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8623
8627	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8627
8628	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8628
8629	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8629
8630	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8630
8631	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8631
8632	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8632
8633	29-SoCal_Metals (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8633
8637	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8637
8638	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8638
8639	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8639
8640	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8640
8641	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8641
8642	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8642

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8643	29-SoCal_Metals (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8643
8647	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8647
8648	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8648
8649	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8649
8650	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8650
8651	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8651
8652	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8652
8653	29-SoCal_Metals (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8653
8797	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8797
8798	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8798
8799	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8799
8800	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8800
8801	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8801
8802	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8802
8803	30-SoCal_Metals (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8803
8807	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8807
8808	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8808
8809	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8809
8810	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8810
8811	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8811
8812	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8812
8813	30-SoCal_Metals (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8813
8817	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8817
8818	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8818
8819	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8819
8820	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8820
8821	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8821
8822	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8822
8823	30-SoCal_Metals (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8823
8827	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8827
8828	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8828
8829	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8829
8830	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8830
8831	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8831
8832	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8832
8833	30-SoCal_Metals (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8833

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8837	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8837
8838	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8838
8839	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8839
8840	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8840
8841	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8841
8842	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8842
8843	30-SoCal_Metals (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8843
8847	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8847
8848	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8848
8849	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8849
8850	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8850
8851	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8851
8852	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8852
8853	30-SoCal_Metals (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8853
8857	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8857
8858	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8858
8859	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8859
8860	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8860
8861	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8861
8862	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8862
8863	30-SoCal_Metals (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8863
8867	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8867
8868	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8868
8869	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8869
8870	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8870
8871	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8871
8872	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8872
8873	30-SoCal_Metals (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8873
8877	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8877
8878	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8878
8879	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8879
8880	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8880
8881	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8881
8882	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8882
8883	30-SoCal_Metals (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8883
8887	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8887

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8888	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8888
8889	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8889
8890	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8890
8891	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8891
8892	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8892
8893	30-SoCal_Metals (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8893
8897	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8897
8898	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8898
8899	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8899
8900	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8900
8901	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8901
8902	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8902
8903	30-SoCal_Metals (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8903
8907	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8907
8908	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8908
8909	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8909
8910	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8910
8911	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8911
8912	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8912
8913	30-SoCal_Metals (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8913
8917	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8917
8918	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8918
8919	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8919
8920	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8920
8921	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8921
8922	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8922
8923	30-SoCal_Metals (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8923
8927	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8927
8928	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8928
8929	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8929
8930	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8930
8931	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8931
8932	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8932
8933	30-SoCal_Metals (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8933
8937	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8937
8938	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8938

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
8939	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8939
8940	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8940
8941	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8941
8942	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8942
8943	30-SoCal_Metals (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8943
8947	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8947
8948	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8948
8949	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8949
8950	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8950
8951	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8951
8952	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8952
8953	30-SoCal_Metals (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV8953
9097	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9097
9098	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9098
9099	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9099
9100	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9100
9101	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9101
9102	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9102
9103	31-SoCal_Metals (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9103
9107	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9107
9108	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9108
9109	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9109
9110	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9110
9111	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9111
9112	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9112
9113	31-SoCal_Metals (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9113
9117	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9117
9118	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9118
9119	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9119
9120	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9120
9121	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9121
9122	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9122
9123	31-SoCal_Metals (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9123
9127	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9127
9128	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9128
9129	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9129

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9130	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9130
9131	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9131
9132	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9132
9133	31-SoCal_Metals (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9133
9137	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9137
9138	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9138
9139	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9139
9140	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9140
9141	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9141
9142	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9142
9143	31-SoCal_Metals (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9143
9147	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9147
9148	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9148
9149	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9149
9150	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9150
9151	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9151
9152	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9152
9153	31-SoCal_Metals (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9153
9157	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9157
9158	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9158
9159	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9159
9160	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9160
9161	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9161
9162	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9162
9163	31-SoCal_Metals (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9163
9167	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9167
9168	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9168
9169	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9169
9170	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9170
9171	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9171
9172	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9172
9173	31-SoCal_Metals (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9173
9177	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9177
9178	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9178
9179	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9179
9180	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9180

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9181	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9181
9182	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9182
9183	31-SoCal_Metals (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9183
9187	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9187
9188	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9188
9189	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9189
9190	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9190
9191	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9191
9192	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9192
9193	31-SoCal_Metals (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9193
9197	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9197
9198	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9198
9199	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9199
9200	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9200
9201	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9201
9202	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9202
9203	31-SoCal_Metals (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9203
9207	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9207
9208	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9208
9209	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9209
9210	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9210
9211	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9211
9212	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9212
9213	31-SoCal_Metals (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9213
9217	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9217
9218	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9218
9219	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9219
9220	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9220
9221	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9221
9222	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9222
9223	31-SoCal_Metals (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9223
9227	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9227
9228	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9228
9229	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9229
9230	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9230
9231	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9231

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9232	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9232
9233	31-SoCal_Metals (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9233
9237	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9237
9238	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9238
9239	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9239
9240	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9240
9241	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9241
9242	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9242
9243	31-SoCal_Metals (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9243
9247	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9247
9248	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9248
9249	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9249
9250	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9250
9251	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9251
9252	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9252
9253	31-SoCal_Metals (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9253
9397	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9397
9398	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9398
9399	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9399
9400	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9400
9401	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9401
9402	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9402
9403	32-SoCal_Metals (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9403
9407	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9407
9408	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9408
9409	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9409
9410	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9410
9411	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9411
9412	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9412
9413	32-SoCal_Metals (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9413
9417	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9417
9418	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9418
9419	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9419
9420	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9420
9421	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9421
9422	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9422

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9423	32-SoCal_Metals (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9423
9427	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9427
9428	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9428
9429	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9429
9430	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9430
9431	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9431
9432	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9432
9433	32-SoCal_Metals (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9433
9437	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9437
9438	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9438
9439	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9439
9440	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9440
9441	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9441
9442	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9442
9443	32-SoCal_Metals (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9443
9447	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9447
9448	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9448
9449	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9449
9450	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9450
9451	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9451
9452	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9452
9453	32-SoCal_Metals (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9453
9457	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9457
9458	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9458
9459	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9459
9460	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9460
9461	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9461
9462	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9462
9463	32-SoCal_Metals (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9463
9467	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9467
9468	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9468
9469	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9469
9470	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9470
9471	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9471
9472	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9472
9473	32-SoCal_Metals (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9473

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9477	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9477
9478	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9478
9479	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9479
9480	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9480
9481	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9481
9482	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9482
9483	32-SoCal_Metals (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9483
9487	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9487
9488	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9488
9489	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9489
9490	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9490
9491	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9491
9492	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9492
9493	32-SoCal_Metals (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9493
9497	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9497
9498	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9498
9499	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9499
9500	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9500
9501	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9501
9502	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9502
9503	32-SoCal_Metals (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9503
9507	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9507
9508	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9508
9509	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9509
9510	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9510
9511	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9511
9512	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9512
9513	32-SoCal_Metals (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9513
9517	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9517
9518	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9518
9519	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9519
9520	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9520
9521	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9521
9522	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9522
9523	32-SoCal_Metals (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9523
9527	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9527

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9528	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9528
9529	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9529
9530	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9530
9531	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9531
9532	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9532
9533	32-SoCal_Metals (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9533
9537	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9537
9538	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9538
9539	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9539
9540	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9540
9541	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9541
9542	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9542
9543	32-SoCal_Metals (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9543
9547	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9547
9548	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9548
9549	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9549
9550	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9550
9551	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9551
9552	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9552
9553	32-SoCal_Metals (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9553
9697	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9697
9698	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9698
9699	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9699
9700	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9700
9701	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9701
9702	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9702
9703	33-SoCal_Metals (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9703
9707	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9707
9708	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9708
9709	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9709
9710	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9710
9711	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9711
9712	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9712
9713	33-SoCal_Metals (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9713
9717	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9717
9718	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9718

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9719	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9719
9720	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9720
9721	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9721
9722	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9722
9723	33-SoCal_Metals (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9723
9727	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9727
9728	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9728
9729	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9729
9730	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9730
9731	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9731
9732	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9732
9733	33-SoCal_Metals (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9733
9737	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9737
9738	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9738
9739	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9739
9740	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9740
9741	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9741
9742	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9742
9743	33-SoCal_Metals (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9743
9747	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9747
9748	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9748
9749	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9749
9750	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9750
9751	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9751
9752	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9752
9753	33-SoCal_Metals (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9753
9757	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9757
9758	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9758
9759	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9759
9760	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9760
9761	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9761
9762	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9762
9763	33-SoCal_Metals (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9763
9767	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9767
9768	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9768
9769	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9769

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2	**Tab Contents**				
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5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9770	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9770
9771	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9771
9772	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9772
9773	33-SoCal_Metals (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9773
9777	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9777
9778	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9778
9779	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9779
9780	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9780
9781	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9781
9782	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9782
9783	33-SoCal_Metals (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9783
9787	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9787
9788	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9788
9789	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9789
9790	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9790
9791	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9791
9792	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9792
9793	33-SoCal_Metals (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9793
9797	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9797
9798	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9798
9799	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9799
9800	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9800
9801	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9801
9802	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9802
9803	33-SoCal_Metals (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9803
9807	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9807
9808	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9808
9809	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9809
9810	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9810
9811	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9811
9812	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9812
9813	33-SoCal_Metals (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9813
9817	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9817
9818	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9818
9819	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9819
9820	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9820

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
9821	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9821
9822	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9822
9823	33-SoCal_Metals (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9823
9827	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9827
9828	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9828
9829	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9829
9830	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9830
9831	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9831
9832	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9832
9833	33-SoCal_Metals (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9833
9837	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9837
9838	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9838
9839	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9839
9840	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9840
9841	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9841
9842	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9842
9843	33-SoCal_Metals (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9843
9847	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9847
9848	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9848
9849	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9849
9850	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9850
9851	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9851
9852	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9852
9853	33-SoCal_Metals (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9853
9997	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9997
9998	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9998
9999	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9999
10000	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10000
10001	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10001
10002	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10002
10003	34-SoCal_Metals (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10003
10007	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10007
10008	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10008
10009	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10009
10010	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10010
10011	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10011

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10012	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10012
10013	34-SoCal_Metals (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10013
10017	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10017
10018	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10018
10019	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10019
10020	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10020
10021	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10021
10022	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10022
10023	34-SoCal_Metals (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10023
10027	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10027
10028	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10028
10029	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10029
10030	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10030
10031	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10031
10032	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10032
10033	34-SoCal_Metals (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10033
10037	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10037
10038	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10038
10039	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10039
10040	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10040
10041	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10041
10042	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10042
10043	34-SoCal_Metals (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10043
10047	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10047
10048	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10048
10049	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10049
10050	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10050
10051	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10051
10052	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10052
10053	34-SoCal_Metals (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10053
10057	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10057
10058	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10058
10059	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10059
10060	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10060
10061	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10061
10062	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10062

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10063	34-SoCal_Metals (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10063
10067	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10067
10068	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10068
10069	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10069
10070	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10070
10071	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10071
10072	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10072
10073	34-SoCal_Metals (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10073
10077	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10077
10078	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10078
10079	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10079
10080	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10080
10081	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10081
10082	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10082
10083	34-SoCal_Metals (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10083
10087	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10087
10088	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10088
10089	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10089
10090	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10090
10091	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10091
10092	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10092
10093	34-SoCal_Metals (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10093
10097	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10097
10098	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10098
10099	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10099
10100	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10100
10101	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10101
10102	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10102
10103	34-SoCal_Metals (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10103
10107	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10107
10108	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10108
10109	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10109
10110	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10110
10111	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10111
10112	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10112
10113	34-SoCal_Metals (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10113

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10117	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10117
10118	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10118
10119	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10119
10120	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10120
10121	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10121
10122	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10122
10123	34-SoCal_Metals (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10123
10127	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10127
10128	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10128
10129	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10129
10130	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10130
10131	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10131
10132	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10132
10133	34-SoCal_Metals (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10133
10137	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10137
10138	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10138
10139	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10139
10140	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10140
10141	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10141
10142	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10142
10143	34-SoCal_Metals (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10143
10147	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10147
10148	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10148
10149	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10149
10150	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10150
10151	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10151
10152	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10152
10153	34-SoCal_Metals (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10153
10297	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10297
10298	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10298
10299	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10299
10300	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10300
10301	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10301
10302	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10302
10303	35-SoCal_Metals (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10303
10307	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10307

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10308	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10308
10309	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10309
10310	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10310
10311	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10311
10312	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10312
10313	35-SoCal_Metals (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10313
10317	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10317
10318	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10318
10319	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10319
10320	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10320
10321	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10321
10322	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10322
10323	35-SoCal_Metals (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10323
10327	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10327
10328	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10328
10329	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10329
10330	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10330
10331	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10331
10332	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10332
10333	35-SoCal_Metals (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10333
10337	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10337
10338	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10338
10339	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10339
10340	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10340
10341	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10341
10342	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10342
10343	35-SoCal_Metals (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10343
10347	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10347
10348	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10348
10349	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10349
10350	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10350
10351	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10351
10352	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10352
10353	35-SoCal_Metals (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10353
10357	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10357
10358	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10358

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10359	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10359
10360	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10360
10361	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10361
10362	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10362
10363	35-SoCal_Metals (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10363
10367	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10367
10368	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10368
10369	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10369
10370	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10370
10371	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10371
10372	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10372
10373	35-SoCal_Metals (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10373
10377	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10377
10378	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10378
10379	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10379
10380	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10380
10381	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10381
10382	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10382
10383	35-SoCal_Metals (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10383
10387	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10387
10388	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10388
10389	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10389
10390	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10390
10391	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10391
10392	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10392
10393	35-SoCal_Metals (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10393
10397	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10397
10398	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10398
10399	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10399
10400	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10400
10401	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10401
10402	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10402
10403	35-SoCal_Metals (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10403
10407	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10407
10408	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10408
10409	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10409

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10410	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10410
10411	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10411
10412	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10412
10413	35-SoCal_Metals (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10413
10417	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10417
10418	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10418
10419	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10419
10420	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10420
10421	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10421
10422	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10422
10423	35-SoCal_Metals (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10423
10427	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10427
10428	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10428
10429	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10429
10430	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10430
10431	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10431
10432	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10432
10433	35-SoCal_Metals (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10433
10437	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10437
10438	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10438
10439	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10439
10440	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10440
10441	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10441
10442	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10442
10443	35-SoCal_Metals (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10443
10447	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10447
10448	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10448
10449	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10449
10450	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10450
10451	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10451
10452	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10452
10453	35-SoCal_Metals (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10453
10597	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10597
10598	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1098762.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10598
10599	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10599
10600	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10600

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10601	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8124751.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10601
10602	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10602
10603	36-SoCal_Metals (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10603
10607	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10607
10608	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1250252.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10608
10609	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10609
10610	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10610
10611	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8155346.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10611
10612	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10612
10613	36-SoCal_Metals (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10613
10617	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10617
10618	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1393143.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10618
10619	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10619
10620	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10620
10621	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8173460.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10621
10622	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10622
10623	36-SoCal_Metals (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10623
10627	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10627
10628	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1526724.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10628
10629	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10629
10630	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10630
10631	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8177000.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10631
10632	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10632
10633	36-SoCal_Metals (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10633
10637	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10637
10638	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1669524.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10638
10639	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10639
10640	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10640
10641	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8259407.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10641
10642	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10642
10643	36-SoCal_Metals (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10643
10647	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10647
10648	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1801052.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10648
10649	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10649
10650	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10650
10651	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8308620.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10651

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10652	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10652
10653	36-SoCal_Metals (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10653
10657	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10657
10658	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1938399.29	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10658
10659	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10659
10660	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10660
10661	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8404104.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10661
10662	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10662
10663	36-SoCal_Metals (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10663
10667	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10667
10668	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2066909.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10668
10669	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10669
10670	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10670
10671	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8477359.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10671
10672	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10672
10673	36-SoCal_Metals (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10673
10677	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10677
10678	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2193849.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10678
10679	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10679
10680	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10680
10681	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8559537.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10681
10682	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10682
10683	36-SoCal_Metals (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10683
10687	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10687
10688	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2315526.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10688
10689	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10689
10690	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10690
10691	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8635097.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10691
10692	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10692
10693	36-SoCal_Metals (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10693
10697	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10697
10698	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2443131.40	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10698
10699	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10699
10700	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10700
10701	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8735544.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10701
10702	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10702

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10703	36-SoCal_Metals (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10703
10707	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10707
10708	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2564808.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10708
10709	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10709
10710	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10710
10711	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8825510.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10711
10712	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10712
10713	36-SoCal_Metals (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10713
10717	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10717
10718	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2686345.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10718
10719	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10719
10720	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10720
10721	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	8924984.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10721
10722	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10722
10723	36-SoCal_Metals (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10723
10727	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10727
10728	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2809289.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10728
10729	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10729
10730	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10730
10731	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9037683.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10731
10732	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10732
10733	36-SoCal_Metals (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10733
10737	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10737
10738	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2925413.56	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10738
10739	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10739
10740	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10740
10741	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9136463.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10741
10742	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10742
10743	36-SoCal_Metals (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10743
10747	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10747
10748	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3034179.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10748
10749	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10749
10750	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10750
10751	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	9220600.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10751
10752	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10752
10753	36-SoCal_Metals (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10753

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10897	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10897
10898	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2402691.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10898
10899	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10899
10900	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10900
10901	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10901
10902	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10902
10903	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10903
10907	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10907
10908	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2729714.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10908
10909	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10909
10910	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10910
10911	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10911
10912	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10912
10913	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10913
10917	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10917
10918	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3032112.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10918
10919	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10919
10920	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10920
10921	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10921
10922	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10922
10923	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10923
10927	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10927
10928	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3310783.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10928
10929	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10929
10930	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10930
10931	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10931
10932	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10932
10933	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10933
10937	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10937
10938	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3566830.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10938
10939	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10939
10940	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10940
10941	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10941
10942	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10942
10943	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10943
10947	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10947

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10948	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3801530.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10948
10949	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10949
10950	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10950
10951	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10951
10952	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10952
10953	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10953
10957	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10957
10958	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4016291.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10958
10959	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10959
10960	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10960
10961	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10961
10962	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10962
10963	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10963
10967	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10967
10968	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4212593.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10968
10969	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10969
10970	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10970
10971	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10971
10972	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10972
10973	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10973
10977	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10977
10978	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4391934.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10978
10979	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10979
10980	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10980
10981	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10981
10982	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10982
10983	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10983
10987	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10987
10988	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4555776.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10988
10989	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10989
10990	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10990
10991	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10991
10992	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10992
10993	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10993
10997	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10997
10998	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4709259.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10998

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
10999	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV10999
11000	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11000
11001	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11001
11002	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11002
11003	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11003
11007	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11007
11008	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4849740.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11008
11009	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11009
11010	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11010
11011	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11011
11012	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11012
11013	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11013
11017	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11017
11018	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4978431.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11018
11019	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11019
11020	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11020
11021	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11021
11022	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11022
11023	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11023
11027	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11027
11028	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5096440.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11028
11029	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11029
11030	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11030
11031	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11031
11032	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11032
11033	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11033
11037	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11037
11038	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5204765.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11038
11039	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11039
11040	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11040
11041	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11041
11042	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11042
11043	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11043
11047	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11047
11048	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5304309.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11048
11049	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11049

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11050	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11050
11051	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11051
11052	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11052
11053	37-SoCal_StoneGlassCement (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11053
11197	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11197
11198	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2402691.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11198
11199	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11199
11200	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11200
11201	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11201
11202	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11202
11203	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11203
11207	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11207
11208	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2729714.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11208
11209	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11209
11210	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11210
11211	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11211
11212	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11212
11213	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11213
11217	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11217
11218	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3032112.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11218
11219	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11219
11220	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11220
11221	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11221
11222	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11222
11223	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11223
11227	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11227
11228	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3310783.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11228
11229	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11229
11230	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11230
11231	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11231
11232	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11232
11233	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11233
11237	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11237
11238	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3566830.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11238
11239	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11239
11240	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11240

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11241	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11241
11242	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11242
11243	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11243
11247	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11247
11248	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3801530.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11248
11249	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11249
11250	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11250
11251	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11251
11252	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11252
11253	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11253
11257	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11257
11258	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4016291.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11258
11259	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11259
11260	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11260
11261	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11261
11262	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11262
11263	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11263
11267	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11267
11268	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4212593.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11268
11269	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11269
11270	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11270
11271	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11271
11272	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11272
11273	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11273
11277	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11277
11278	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4391934.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11278
11279	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11279
11280	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11280
11281	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11281
11282	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11282
11283	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11283
11287	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11287
11288	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4555776.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11288
11289	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11289
11290	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11290
11291	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11291

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11292	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11292
11293	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11293
11297	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11297
11298	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4709259.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11298
11299	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11299
11300	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11300
11301	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11301
11302	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11302
11303	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11303
11307	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11307
11308	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4849740.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11308
11309	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11309
11310	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11310
11311	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11311
11312	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11312
11313	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11313
11317	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11317
11318	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4978431.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11318
11319	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11319
11320	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11320
11321	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11321
11322	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11322
11323	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11323
11327	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11327
11328	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5096440.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11328
11329	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11329
11330	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11330
11331	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11331
11332	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11332
11333	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11333
11337	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11337
11338	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5204765.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11338
11339	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11339
11340	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11340
11341	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11341
11342	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11342

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11343	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11343
11347	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11347
11348	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5304309.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11348
11349	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11349
11350	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11350
11351	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11351
11352	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11352
11353	38-SoCal_StoneGlassCement (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11353
11497	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11497
11498	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2402691.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11498
11499	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11499
11500	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11500
11501	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11501
11502	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11502
11503	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11503
11507	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11507
11508	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2729714.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11508
11509	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11509
11510	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11510
11511	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11511
11512	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11512
11513	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11513
11517	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11517
11518	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3032112.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11518
11519	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11519
11520	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11520
11521	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11521
11522	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11522
11523	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11523
11527	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11527
11528	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3310783.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11528
11529	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11529
11530	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11530
11531	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11531
11532	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11532
11533	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11533

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11537	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11537
11538	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3566830.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11538
11539	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11539
11540	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11540
11541	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11541
11542	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11542
11543	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11543
11547	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11547
11548	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3801530.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11548
11549	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11549
11550	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11550
11551	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11551
11552	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11552
11553	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11553
11557	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11557
11558	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4016291.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11558
11559	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11559
11560	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11560
11561	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11561
11562	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11562
11563	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11563
11567	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11567
11568	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4212593.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11568
11569	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11569
11570	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11570
11571	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11571
11572	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11572
11573	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11573
11577	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11577
11578	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4391934.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11578
11579	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11579
11580	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11580
11581	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11581
11582	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11582
11583	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11583
11587	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11587

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11588	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4555776.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11588
11589	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11589
11590	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11590
11591	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11591
11592	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11592
11593	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11593
11597	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11597
11598	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4709259.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11598
11599	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11599
11600	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11600
11601	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11601
11602	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11602
11603	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11603
11607	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11607
11608	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4849740.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11608
11609	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11609
11610	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11610
11611	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11611
11612	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11612
11613	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11613
11617	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11617
11618	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4978431.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11618
11619	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11619
11620	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11620
11621	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11621
11622	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11622
11623	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11623
11627	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11627
11628	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5096440.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11628
11629	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11629
11630	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11630
11631	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11631
11632	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11632
11633	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11633
11637	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11637
11638	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5204765.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11638

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11639	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11639
11640	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11640
11641	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11641
11642	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11642
11643	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11643
11647	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11647
11648	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5304309.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11648
11649	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11649
11650	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11650
11651	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11651
11652	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11652
11653	39-SoCal_StoneGlassCement (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11653
11797	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11797
11798	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2402691.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11798
11799	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11799
11800	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11800
11801	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11801
11802	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11802
11803	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11803
11807	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11807
11808	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2729714.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11808
11809	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11809
11810	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11810
11811	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11811
11812	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11812
11813	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11813
11817	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11817
11818	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3032112.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11818
11819	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11819
11820	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11820
11821	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11821
11822	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11822
11823	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11823
11827	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11827
11828	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3310783.75	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11828
11829	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11829

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11830	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11830
11831	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11831
11832	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11832
11833	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11833
11837	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11837
11838	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3566830.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11838
11839	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11839
11840	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11840
11841	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11841
11842	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11842
11843	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11843
11847	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11847
11848	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3801530.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11848
11849	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11849
11850	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11850
11851	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11851
11852	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11852
11853	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11853
11857	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11857
11858	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4016291.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11858
11859	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11859
11860	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11860
11861	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11861
11862	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11862
11863	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11863
11867	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11867
11868	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4212593.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11868
11869	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11869
11870	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11870
11871	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11871
11872	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11872
11873	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11873
11877	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11877
11878	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4391934.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11878
11879	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11879
11880	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11880

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11881	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11881
11882	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11882
11883	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11883
11887	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11887
11888	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4555776.57	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11888
11889	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11889
11890	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11890
11891	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11891
11892	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11892
11893	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11893
11897	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11897
11898	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4709259.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11898
11899	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11899
11900	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11900
11901	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11901
11902	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11902
11903	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11903
11907	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11907
11908	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4849740.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11908
11909	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11909
11910	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11910
11911	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11911
11912	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11912
11913	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11913
11917	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11917
11918	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4978431.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11918
11919	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11919
11920	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11920
11921	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11921
11922	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11922
11923	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11923
11927	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11927
11928	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5096440.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11928
11929	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11929
11930	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11930
11931	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11931

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
11932	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11932
11933	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11933
11937	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11937
11938	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5204765.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11938
11939	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11939
11940	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11940
11941	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11941
11942	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11942
11943	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11943
11947	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11947
11948	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5304309.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11948
11949	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11949
11950	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11950
11951	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11951
11952	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11952
11953	40-SoCal_StoneGlassCement (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV11953
12097	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12097
12098	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12098
12099	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12099
12100	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12100
12101	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12101
12102	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12102
12103	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12103
12107	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12107
12108	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12108
12109	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12109
12110	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12110
12111	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12111
12112	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12112
12113	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12113
12117	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12117
12118	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12118
12119	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12119
12120	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12120
12121	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12121
12122	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12122

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12123	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12123
12127	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12127
12128	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12128
12129	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12129
12130	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12130
12131	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12131
12132	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12132
12133	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12133
12137	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12137
12138	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12138
12139	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12139
12140	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12140
12141	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12141
12142	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12142
12143	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12143
12147	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12147
12148	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12148
12149	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12149
12150	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12150
12151	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12151
12152	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12152
12153	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12153
12157	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12157
12158	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12158
12159	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12159
12160	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12160
12161	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12161
12162	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12162
12163	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12163
12167	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12167
12168	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12168
12169	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12169
12170	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12170
12171	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12171
12172	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12172
12173	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12173

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12177	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12177
12178	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12178
12179	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12179
12180	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12180
12181	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12181
12182	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12182
12183	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12183
12187	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12187
12188	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12188
12189	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12189
12190	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12190
12191	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12191
12192	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12192
12193	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12193
12197	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12197
12198	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12198
12199	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12199
12200	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12200
12201	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12201
12202	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12202
12203	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12203
12207	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12207
12208	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12208
12209	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12209
12210	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12210
12211	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12211
12212	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12212
12213	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12213
12217	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12217
12218	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12218
12219	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12219
12220	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12220
12221	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12221
12222	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12222
12223	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12223
12227	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12227

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12228	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12228
12229	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12229
12230	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12230
12231	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12231
12232	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12232
12233	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12233
12237	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12237
12238	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12238
12239	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12239
12240	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12240
12241	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12241
12242	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12242
12243	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12243
12247	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12247
12248	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12248
12249	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12249
12250	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12250
12251	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12251
12252	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12252
12253	41-SoCal_StoneGlassCement (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12253
12397	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12397
12398	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12398
12399	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12399
12400	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12400
12401	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12401
12402	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12402
12403	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12403
12407	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12407
12408	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12408
12409	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12409
12410	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12410
12411	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12411
12412	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12412
12413	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12413
12417	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12417
12418	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12418

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12419	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12419
12420	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12420
12421	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12421
12422	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12422
12423	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12423
12427	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12427
12428	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12428
12429	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12429
12430	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12430
12431	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12431
12432	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12432
12433	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12433
12437	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12437
12438	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12438
12439	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12439
12440	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12440
12441	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12441
12442	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12442
12443	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12443
12447	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12447
12448	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12448
12449	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12449
12450	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12450
12451	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12451
12452	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12452
12453	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12453
12457	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12457
12458	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12458
12459	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12459
12460	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12460
12461	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12461
12462	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12462
12463	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12463
12467	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12467
12468	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12468
12469	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12469

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12470	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12470
12471	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12471
12472	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12472
12473	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12473
12477	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12477
12478	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12478
12479	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12479
12480	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12480
12481	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12481
12482	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12482
12483	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12483
12487	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12487
12488	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12488
12489	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12489
12490	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12490
12491	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12491
12492	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12492
12493	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12493
12497	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12497
12498	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12498
12499	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12499
12500	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12500
12501	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12501
12502	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12502
12503	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12503
12507	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12507
12508	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12508
12509	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12509
12510	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12510
12511	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12511
12512	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12512
12513	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12513
12517	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12517
12518	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12518
12519	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12519
12520	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12520

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12521	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12521
12522	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12522
12523	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12523
12527	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12527
12528	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12528
12529	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12529
12530	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12530
12531	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12531
12532	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12532
12533	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12533
12537	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12537
12538	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12538
12539	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12539
12540	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12540
12541	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12541
12542	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12542
12543	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12543
12547	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12547
12548	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12548
12549	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12549
12550	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12550
12551	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12551
12552	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12552
12553	42-SoCal_StoneGlassCement (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12553
12697	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12697
12698	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12698
12699	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12699
12700	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12700
12701	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12701
12702	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12702
12703	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12703
12707	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12707
12708	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12708
12709	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12709
12710	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12710
12711	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12711

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12712	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12712
12713	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12713
12717	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12717
12718	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12718
12719	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12719
12720	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12720
12721	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12721
12722	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12722
12723	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12723
12727	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12727
12728	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12728
12729	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12729
12730	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12730
12731	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12731
12732	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12732
12733	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12733
12737	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12737
12738	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12738
12739	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12739
12740	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12740
12741	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12741
12742	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12742
12743	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12743
12747	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12747
12748	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12748
12749	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12749
12750	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12750
12751	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12751
12752	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12752
12753	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12753
12757	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12757
12758	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12758
12759	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12759
12760	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12760
12761	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12761
12762	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12762

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12763	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12763
12767	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12767
12768	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12768
12769	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12769
12770	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12770
12771	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12771
12772	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12772
12773	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12773
12777	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12777
12778	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12778
12779	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12779
12780	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12780
12781	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12781
12782	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12782
12783	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12783
12787	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12787
12788	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12788
12789	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12789
12790	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12790
12791	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12791
12792	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12792
12793	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12793
12797	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12797
12798	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12798
12799	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12799
12800	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12800
12801	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12801
12802	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12802
12803	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12803
12807	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12807
12808	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12808
12809	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12809
12810	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12810
12811	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12811
12812	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12812
12813	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12813

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
12817	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12817
12818	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12818
12819	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12819
12820	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12820
12821	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12821
12822	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12822
12823	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12823
12827	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12827
12828	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12828
12829	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12829
12830	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12830
12831	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12831
12832	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12832
12833	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12833
12837	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12837
12838	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12838
12839	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12839
12840	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12840
12841	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12841
12842	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12842
12843	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12843
12847	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12847
12848	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12848
12849	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12849
12850	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12850
12851	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12851
12852	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12852
12853	43-SoCal_StoneGlassCement (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12853
12997	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12997
12998	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12998
12999	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV12999
13000	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13000
13001	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13001
13002	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13002
13003	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13003
13007	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13007

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13008	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13008
13009	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13009
13010	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13010
13011	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13011
13012	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13012
13013	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13013
13017	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13017
13018	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13018
13019	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13019
13020	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13020
13021	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13021
13022	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13022
13023	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13023
13027	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13027
13028	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13028
13029	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13029
13030	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13030
13031	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13031
13032	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13032
13033	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13033
13037	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13037
13038	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13038
13039	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13039
13040	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13040
13041	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13041
13042	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13042
13043	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13043
13047	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13047
13048	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13048
13049	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13049
13050	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13050
13051	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13051
13052	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13052
13053	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13053
13057	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13057
13058	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13058

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13059	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13059
13060	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13060
13061	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13061
13062	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13062
13063	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13063
13067	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13067
13068	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13068
13069	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13069
13070	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13070
13071	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13071
13072	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13072
13073	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13073
13077	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13077
13078	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13078
13079	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13079
13080	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13080
13081	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13081
13082	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13082
13083	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13083
13087	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13087
13088	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13088
13089	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13089
13090	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13090
13091	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13091
13092	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13092
13093	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13093
13097	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13097
13098	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13098
13099	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13099
13100	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13100
13101	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13101
13102	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13102
13103	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13103
13107	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13107
13108	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13108
13109	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13109

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13110	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13110
13111	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13111
13112	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13112
13113	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13113
13117	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13117
13118	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13118
13119	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13119
13120	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13120
13121	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13121
13122	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13122
13123	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13123
13127	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13127
13128	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13128
13129	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13129
13130	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13130
13131	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13131
13132	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13132
13133	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13133
13137	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13137
13138	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13138
13139	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13139
13140	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13140
13141	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13141
13142	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13142
13143	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13143
13147	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13147
13148	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13148
13149	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13149
13150	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13150
13151	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13151
13152	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13152
13153	44-SoCal_StoneGlassCement (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13153
13297	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13297
13298	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13298
13299	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13299
13300	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13300

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13301	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13301
13302	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13302
13303	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13303
13307	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13307
13308	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13308
13309	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13309
13310	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13310
13311	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13311
13312	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13312
13313	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13313
13317	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13317
13318	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13318
13319	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13319
13320	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13320
13321	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13321
13322	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13322
13323	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13323
13327	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13327
13328	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13328
13329	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13329
13330	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13330
13331	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13331
13332	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13332
13333	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13333
13337	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13337
13338	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13338
13339	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13339
13340	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13340
13341	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13341
13342	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13342
13343	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13343
13347	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13347
13348	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13348
13349	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13349
13350	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13350
13351	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13351

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13352	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13352
13353	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13353
13357	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13357
13358	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13358
13359	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13359
13360	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13360
13361	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13361
13362	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13362
13363	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13363
13367	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13367
13368	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13368
13369	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13369
13370	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13370
13371	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13371
13372	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13372
13373	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13373
13377	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13377
13378	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13378
13379	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13379
13380	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13380
13381	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13381
13382	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13382
13383	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13383
13387	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13387
13388	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13388
13389	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13389
13390	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13390
13391	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13391
13392	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13392
13393	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13393
13397	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13397
13398	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13398
13399	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13399
13400	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13400
13401	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13401
13402	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13402

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13403	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13403
13407	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13407
13408	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13408
13409	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13409
13410	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13410
13411	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13411
13412	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13412
13413	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13413
13417	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13417
13418	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13418
13419	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13419
13420	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13420
13421	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13421
13422	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13422
13423	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13423
13427	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13427
13428	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13428
13429	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13429
13430	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13430
13431	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13431
13432	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13432
13433	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13433
13437	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13437
13438	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13438
13439	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13439
13440	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13440
13441	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13441
13442	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13442
13443	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13443
13447	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13447
13448	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13448
13449	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13449
13450	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13450
13451	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13451
13452	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13452
13453	45-SoCal_StoneGlassCement (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13453

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13597	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13597
13598	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13598
13599	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13599
13600	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13600
13601	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13601
13602	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13602
13603	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13603
13607	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13607
13608	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13608
13609	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13609
13610	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13610
13611	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13611
13612	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13612
13613	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13613
13617	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13617
13618	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13618
13619	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13619
13620	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13620
13621	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13621
13622	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13622
13623	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13623
13627	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13627
13628	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13628
13629	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13629
13630	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13630
13631	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13631
13632	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13632
13633	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13633
13637	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13637
13638	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13638
13639	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13639
13640	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13640
13641	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13641
13642	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13642
13643	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13643
13647	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13647

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13648	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13648
13649	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13649
13650	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13650
13651	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13651
13652	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13652
13653	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13653
13657	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13657
13658	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13658
13659	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13659
13660	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13660
13661	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13661
13662	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13662
13663	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13663
13667	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13667
13668	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13668
13669	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13669
13670	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13670
13671	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13671
13672	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13672
13673	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13673
13677	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13677
13678	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13678
13679	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13679
13680	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13680
13681	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13681
13682	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13682
13683	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13683
13687	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13687
13688	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13688
13689	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13689
13690	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13690
13691	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13691
13692	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13692
13693	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13693
13697	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13697
13698	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13698

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13699	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13699
13700	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13700
13701	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13701
13702	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13702
13703	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13703
13707	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13707
13708	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13708
13709	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13709
13710	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13710
13711	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13711
13712	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13712
13713	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13713
13717	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13717
13718	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13718
13719	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13719
13720	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13720
13721	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13721
13722	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13722
13723	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13723
13727	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13727
13728	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13728
13729	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13729
13730	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13730
13731	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13731
13732	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13732
13733	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13733
13737	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13737
13738	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13738
13739	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13739
13740	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13740
13741	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13741
13742	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13742
13743	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13743
13747	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13747
13748	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13748
13749	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13749

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13750	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13750
13751	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13751
13752	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13752
13753	46-SoCal_StoneGlassCement (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13753
13897	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13897
13898	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13898
13899	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13899
13900	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13900
13901	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13901
13902	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13902
13903	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13903
13907	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13907
13908	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13908
13909	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13909
13910	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13910
13911	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13911
13912	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13912
13913	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13913
13917	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13917
13918	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13918
13919	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13919
13920	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13920
13921	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13921
13922	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13922
13923	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13923
13927	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13927
13928	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13928
13929	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13929
13930	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13930
13931	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13931
13932	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13932
13933	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13933
13937	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13937
13938	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13938
13939	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13939
13940	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13940

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13941	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13941
13942	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13942
13943	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13943
13947	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13947
13948	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13948
13949	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13949
13950	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13950
13951	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13951
13952	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13952
13953	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13953
13957	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13957
13958	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13958
13959	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13959
13960	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13960
13961	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13961
13962	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13962
13963	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13963
13967	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13967
13968	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13968
13969	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13969
13970	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13970
13971	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13971
13972	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13972
13973	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13973
13977	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13977
13978	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13978
13979	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13979
13980	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13980
13981	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13981
13982	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13982
13983	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13983
13987	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13987
13988	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13988
13989	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13989
13990	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13990
13991	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13991

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
13992	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13992
13993	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13993
13997	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13997
13998	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13998
13999	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV13999
14000	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14000
14001	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14001
14002	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14002
14003	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14003
14007	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14007
14008	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14008
14009	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14009
14010	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14010
14011	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14011
14012	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14012
14013	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14013
14017	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14017
14018	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14018
14019	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14019
14020	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14020
14021	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14021
14022	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14022
14023	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14023
14027	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14027
14028	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14028
14029	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14029
14030	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14030
14031	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14031
14032	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14032
14033	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14033
14037	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14037
14038	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14038
14039	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14039
14040	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14040
14041	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14041
14042	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14042

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14043	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14043
14047	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14047
14048	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14048
14049	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14049
14050	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14050
14051	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14051
14052	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14052
14053	47-SoCal_StoneGlassCement (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14053
14197	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14197
14198	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2495422.15	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14198
14199	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14199
14200	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14200
14201	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23343391.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14201
14202	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14202
14203	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14203
14207	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14207
14208	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	2916764.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14208
14209	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14209
14210	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14210
14211	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23837736.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14211
14212	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14212
14213	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14213
14217	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14217
14218	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3268490.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14218
14219	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14219
14220	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14220
14221	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23850978.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14221
14222	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14222
14223	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14223
14227	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14227
14228	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3537468.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14228
14229	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14229
14230	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14230
14231	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23430630.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14231
14232	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14232
14233	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14233

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14237	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14237
14238	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	3886875.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14238
14239	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14239
14240	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14240
14241	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23670003.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14241
14242	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14242
14243	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14243
14247	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14247
14248	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4163932.52	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14248
14249	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14249
14250	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14250
14251	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23554614.35	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14251
14252	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14252
14253	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14253
14257	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14257
14258	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4338603.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14258
14259	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14259
14260	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14260
14261	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22990822.64	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14261
14262	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14262
14263	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14263
14267	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14267
14268	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4702692.61	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14268
14269	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14269
14270	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14270
14271	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23508695.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14271
14272	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14272
14273	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14273
14277	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14277
14278	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4865118.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14278
14279	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14279
14280	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14280
14281	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	23079386.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14281
14282	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14282
14283	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14283
14287	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14287

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14288	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	4964382.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14288
14289	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14289
14290	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14290
14291	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	22461695.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14291
14292	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14292
14293	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14293
14297	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14297
14298	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5047647.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14298
14299	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14299
14300	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14300
14301	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21860728.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14301
14302	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14302
14303	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14303
14307	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14307
14308	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5190274.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14308
14309	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14309
14310	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14310
14311	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21600044.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14311
14312	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14312
14313	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14313
14317	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14317
14318	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5299429.92	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14318
14319	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14319
14320	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14320
14321	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21264931.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14321
14322	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14322
14323	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14323
14327	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14327
14328	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5417420.28	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14328
14329	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14329
14330	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14330
14331	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	21023548.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14331
14332	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14332
14333	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14333
14337	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14337
14338	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5549529.69	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14338

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14339	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14339
14340	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14340
14341	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20883826.99	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14341
14342	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14342
14343	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14343
14347	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14347
14348	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	5635757.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14348
14349	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14349
14350	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14350
14351	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	20615033.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14351
14352	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14352
14353	48-SoCal_StoneGlassCement (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14353
14497	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14497
14498	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283751.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14498
14499	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14499
14500	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14500
14501	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14501
14502	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14502
14503	49-SoCal_Paper (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14503
14507	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14507
14508	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	337327.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14508
14509	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14509
14510	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14510
14511	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14511
14512	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14512
14513	49-SoCal_Paper (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14513
14517	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14517
14518	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	387262.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14518
14519	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14519
14520	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14520
14521	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14521
14522	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14522
14523	49-SoCal_Paper (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14523
14527	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14527
14528	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	433690.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14528
14529	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14529

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14530	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14530
14531	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14531
14532	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14532
14533	49-SoCal_Paper (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14533
14537	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14537
14538	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476767.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14538
14539	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14539
14540	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14540
14541	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14541
14542	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14542
14543	49-SoCal_Paper (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14543
14547	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14547
14548	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	516672.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14548
14549	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14549
14550	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14550
14551	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14551
14552	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14552
14553	49-SoCal_Paper (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14553
14557	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14557
14558	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	553597.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14558
14559	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14559
14560	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14560
14561	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14561
14562	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14562
14563	49-SoCal_Paper (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14563
14567	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14567
14568	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	587741.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14568
14569	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14569
14570	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14570
14571	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14571
14572	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14572
14573	49-SoCal_Paper (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14573
14577	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14577
14578	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	619308.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14578
14579	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14579
14580	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14580

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14581	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14581
14582	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14582
14583	49-SoCal_Paper (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14583
14587	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14587
14588	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	648497.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14588
14589	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14589
14590	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14590
14591	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14591
14592	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14592
14593	49-SoCal_Paper (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14593
14597	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14597
14598	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	694142.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14598
14599	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14599
14600	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14600
14601	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14601
14602	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14602
14603	49-SoCal_Paper (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14603
14607	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14607
14608	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	736567.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14608
14609	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14609
14610	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14610
14611	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14611
14612	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14612
14613	49-SoCal_Paper (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14613
14617	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14617
14618	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	776020.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14618
14619	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14619
14620	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14620
14621	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14621
14622	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14622
14623	49-SoCal_Paper (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14623
14627	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14627
14628	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	812729.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14628
14629	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14629
14630	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14630
14631	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14631

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14632	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14632
14633	49-SoCal_Paper (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14633
14637	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14637
14638	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	846910.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14638
14639	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14639
14640	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14640
14641	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14641
14642	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14642
14643	49-SoCal_Paper (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14643
14647	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14647
14648	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	878757.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14648
14649	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14649
14650	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14650
14651	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14651
14652	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14652
14653	49-SoCal_Paper (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14653
14797	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14797
14798	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283751.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14798
14799	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14799
14800	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14800
14801	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14801
14802	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14802
14803	50-SoCal_Paper (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14803
14807	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14807
14808	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	337327.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14808
14809	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14809
14810	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14810
14811	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14811
14812	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14812
14813	50-SoCal_Paper (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14813
14817	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14817
14818	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	387262.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14818
14819	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14819
14820	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14820
14821	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14821
14822	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14822

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14823	50-SoCal_Paper (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14823
14827	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14827
14828	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	433690.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14828
14829	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14829
14830	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14830
14831	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14831
14832	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14832
14833	50-SoCal_Paper (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14833
14837	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14837
14838	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476767.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14838
14839	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14839
14840	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14840
14841	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14841
14842	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14842
14843	50-SoCal_Paper (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14843
14847	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14847
14848	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	516672.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14848
14849	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14849
14850	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14850
14851	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14851
14852	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14852
14853	50-SoCal_Paper (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14853
14857	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14857
14858	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	553597.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14858
14859	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14859
14860	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14860
14861	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14861
14862	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14862
14863	50-SoCal_Paper (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14863
14867	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14867
14868	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	587741.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14868
14869	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14869
14870	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14870
14871	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14871
14872	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14872
14873	50-SoCal_Paper (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14873

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14877	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14877
14878	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	619308.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14878
14879	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14879
14880	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14880
14881	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14881
14882	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14882
14883	50-SoCal_Paper (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14883
14887	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14887
14888	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	648497.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14888
14889	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14889
14890	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14890
14891	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14891
14892	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14892
14893	50-SoCal_Paper (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14893
14897	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14897
14898	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	694142.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14898
14899	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14899
14900	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14900
14901	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14901
14902	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14902
14903	50-SoCal_Paper (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14903
14907	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14907
14908	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	736567.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14908
14909	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14909
14910	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14910
14911	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14911
14912	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14912
14913	50-SoCal_Paper (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14913
14917	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14917
14918	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	776020.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14918
14919	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14919
14920	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14920
14921	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14921
14922	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14922
14923	50-SoCal_Paper (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14923
14927	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14927

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
14928	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	812729.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14928
14929	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14929
14930	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14930
14931	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14931
14932	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14932
14933	50-SoCal_Paper (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14933
14937	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14937
14938	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	846910.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14938
14939	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14939
14940	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14940
14941	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14941
14942	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14942
14943	50-SoCal_Paper (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14943
14947	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14947
14948	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	878757.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14948
14949	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14949
14950	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14950
14951	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14951
14952	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14952
14953	50-SoCal_Paper (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV14953
15097	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15097
15098	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283751.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15098
15099	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15099
15100	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15100
15101	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15101
15102	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15102
15103	51-SoCal_Paper (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15103
15107	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15107
15108	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	337327.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15108
15109	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15109
15110	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15110
15111	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15111
15112	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15112
15113	51-SoCal_Paper (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15113
15117	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15117
15118	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	387262.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15118

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	***Equipment ID***	***Fuel Type***	***Parameter***	**Value**	**Reference**
15119	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15119
15120	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15120
15121	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15121
15122	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15122
15123	51-SoCal_Paper (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15123
15127	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15127
15128	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	433690.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15128
15129	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15129
15130	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15130
15131	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15131
15132	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15132
15133	51-SoCal_Paper (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15133
15137	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15137
15138	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476767.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15138
15139	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15139
15140	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15140
15141	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15141
15142	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15142
15143	51-SoCal_Paper (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15143
15147	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15147
15148	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	516672.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15148
15149	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15149
15150	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15150
15151	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15151
15152	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15152
15153	51-SoCal_Paper (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15153
15157	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15157
15158	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	553597.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15158
15159	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15159
15160	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15160
15161	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15161
15162	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15162
15163	51-SoCal_Paper (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15163
15167	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15167
15168	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	587741.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15168
15169	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15169

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15170	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15170
15171	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15171
15172	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15172
15173	51-SoCal_Paper (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15173
15177	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15177
15178	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	619308.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15178
15179	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15179
15180	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15180
15181	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15181
15182	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15182
15183	51-SoCal_Paper (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15183
15187	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15187
15188	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	648497.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15188
15189	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15189
15190	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15190
15191	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15191
15192	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15192
15193	51-SoCal_Paper (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15193
15197	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15197
15198	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	694142.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15198
15199	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15199
15200	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15200
15201	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15201
15202	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15202
15203	51-SoCal_Paper (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15203
15207	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15207
15208	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	736567.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15208
15209	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15209
15210	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15210
15211	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15211
15212	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15212
15213	51-SoCal_Paper (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15213
15217	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15217
15218	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	776020.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15218
15219	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15219
15220	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15220

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15221	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15221
15222	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15222
15223	51-SoCal_Paper (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15223
15227	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15227
15228	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	812729.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15228
15229	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15229
15230	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15230
15231	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15231
15232	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15232
15233	51-SoCal_Paper (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15233
15237	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15237
15238	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	846910.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15238
15239	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15239
15240	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15240
15241	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15241
15242	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15242
15243	51-SoCal_Paper (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15243
15247	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15247
15248	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	878757.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15248
15249	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15249
15250	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15250
15251	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15251
15252	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15252
15253	51-SoCal_Paper (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15253
15397	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15397
15398	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283751.86	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15398
15399	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15399
15400	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15400
15401	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15401
15402	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15402
15403	52-SoCal_Paper (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15403
15407	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15407
15408	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	337327.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15408
15409	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15409
15410	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15410
15411	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15411

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15412	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15412
15413	52-SoCal_Paper (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15413
15417	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15417
15418	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	387262.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15418
15419	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15419
15420	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15420
15421	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15421
15422	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15422
15423	52-SoCal_Paper (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15423
15427	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15427
15428	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	433690.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15428
15429	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15429
15430	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15430
15431	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15431
15432	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15432
15433	52-SoCal_Paper (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15433
15437	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15437
15438	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476767.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15438
15439	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15439
15440	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15440
15441	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15441
15442	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15442
15443	52-SoCal_Paper (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15443
15447	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15447
15448	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	516672.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15448
15449	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15449
15450	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15450
15451	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15451
15452	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15452
15453	52-SoCal_Paper (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15453
15457	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15457
15458	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	553597.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15458
15459	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15459
15460	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15460
15461	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15461
15462	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15462

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15463	52-SoCal_Paper (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15463
15467	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15467
15468	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	587741.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15468
15469	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15469
15470	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15470
15471	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15471
15472	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15472
15473	52-SoCal_Paper (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15473
15477	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15477
15478	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	619308.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15478
15479	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15479
15480	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15480
15481	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15481
15482	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15482
15483	52-SoCal_Paper (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15483
15487	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15487
15488	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	648497.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15488
15489	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15489
15490	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15490
15491	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15491
15492	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15492
15493	52-SoCal_Paper (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15493
15497	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15497
15498	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	694142.41	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15498
15499	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15499
15500	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15500
15501	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15501
15502	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15502
15503	52-SoCal_Paper (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15503
15507	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15507
15508	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	736567.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15508
15509	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15509
15510	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15510
15511	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15511
15512	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15512
15513	52-SoCal_Paper (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15513

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15517	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15517
15518	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	776020.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15518
15519	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15519
15520	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15520
15521	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15521
15522	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15522
15523	52-SoCal_Paper (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15523
15527	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15527
15528	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	812729.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15528
15529	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15529
15530	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15530
15531	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15531
15532	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15532
15533	52-SoCal_Paper (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15533
15537	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15537
15538	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	846910.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15538
15539	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15539
15540	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15540
15541	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15541
15542	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15542
15543	52-SoCal_Paper (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15543
15547	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15547
15548	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	878757.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15548
15549	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15549
15550	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15550
15551	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15551
15552	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15552
15553	52-SoCal_Paper (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15553
15697	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15697
15698	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15698
15699	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15699
15700	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15700
15701	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15701
15702	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15702
15703	53-SoCal_Paper (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15703
15707	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15707

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15708	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15708
15709	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15709
15710	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15710
15711	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15711
15712	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15712
15713	53-SoCal_Paper (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15713
15717	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15717
15718	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15718
15719	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15719
15720	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15720
15721	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15721
15722	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15722
15723	53-SoCal_Paper (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15723
15727	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15727
15728	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15728
15729	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15729
15730	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15730
15731	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15731
15732	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15732
15733	53-SoCal_Paper (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15733
15737	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15737
15738	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15738
15739	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15739
15740	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15740
15741	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15741
15742	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15742
15743	53-SoCal_Paper (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15743
15747	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15747
15748	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15748
15749	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15749
15750	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15750
15751	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15751
15752	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15752
15753	53-SoCal_Paper (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15753
15757	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15757
15758	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15758

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
15759	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15759
15760	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15760
15761	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15761
15762	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15762
15763	53-SoCal_Paper (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15763
15767	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15767
15768	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15768
15769	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15769
15770	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15770
15771	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15771
15772	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15772
15773	53-SoCal_Paper (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15773
15777	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15777
15778	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15778
15779	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15779
15780	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15780
15781	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15781
15782	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15782
15783	53-SoCal_Paper (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15783
15787	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15787
15788	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15788
15789	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15789
15790	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15790
15791	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15791
15792	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15792
15793	53-SoCal_Paper (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15793
15797	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15797
15798	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15798
15799	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15799
15800	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15800
15801	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15801
15802	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15802
15803	53-SoCal_Paper (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15803
15807	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15807
15808	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15808
15809	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15809

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
15810	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15810
15811	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15811
15812	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15812
15813	53-SoCal_Paper (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15813
15817	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15817
15818	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15818
15819	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15819
15820	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15820
15821	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15821
15822	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15822
15823	53-SoCal_Paper (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15823
15827	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15827
15828	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15828
15829	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15829
15830	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15830
15831	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15831
15832	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15832
15833	53-SoCal_Paper (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15833
15837	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15837
15838	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15838
15839	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15839
15840	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15840
15841	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15841
15842	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15842
15843	53-SoCal_Paper (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15843
15847	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15847
15848	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15848
15849	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15849
15850	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15850
15851	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15851
15852	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15852
15853	53-SoCal_Paper (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15853
15997	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15997
15998	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15998
15999	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV15999
16000	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16000

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16001	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16001
16002	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16002
16003	54-SoCal_Paper (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16003
16007	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16007
16008	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16008
16009	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16009
16010	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16010
16011	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16011
16012	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16012
16013	54-SoCal_Paper (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16013
16017	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16017
16018	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16018
16019	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16019
16020	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16020
16021	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16021
16022	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16022
16023	54-SoCal_Paper (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16023
16027	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16027
16028	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16028
16029	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16029
16030	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16030
16031	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16031
16032	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16032
16033	54-SoCal_Paper (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16033
16037	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16037
16038	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16038
16039	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16039
16040	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16040
16041	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16041
16042	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16042
16043	54-SoCal_Paper (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16043
16047	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16047
16048	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16048
16049	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16049
16050	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16050
16051	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16051

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16052	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16052
16053	54-SoCal_Paper (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16053
16057	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16057
16058	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16058
16059	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16059
16060	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16060
16061	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16061
16062	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16062
16063	54-SoCal_Paper (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16063
16067	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16067
16068	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16068
16069	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16069
16070	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16070
16071	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16071
16072	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16072
16073	54-SoCal_Paper (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16073
16077	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16077
16078	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16078
16079	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16079
16080	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16080
16081	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16081
16082	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16082
16083	54-SoCal_Paper (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16083
16087	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16087
16088	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16088
16089	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16089
16090	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16090
16091	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16091
16092	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16092
16093	54-SoCal_Paper (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16093
16097	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16097
16098	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16098
16099	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16099
16100	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16100
16101	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16101
16102	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16102

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16103	54-SoCal_Paper (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16103
16107	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16107
16108	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16108
16109	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16109
16110	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16110
16111	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16111
16112	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16112
16113	54-SoCal_Paper (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16113
16117	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16117
16118	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16118
16119	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16119
16120	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16120
16121	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16121
16122	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16122
16123	54-SoCal_Paper (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16123
16127	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16127
16128	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16128
16129	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16129
16130	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16130
16131	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16131
16132	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16132
16133	54-SoCal_Paper (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16133
16137	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16137
16138	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16138
16139	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16139
16140	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16140
16141	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16141
16142	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16142
16143	54-SoCal_Paper (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16143
16147	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16147
16148	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16148
16149	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16149
16150	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16150
16151	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16151
16152	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16152
16153	54-SoCal_Paper (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16153

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16297	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16297
16298	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16298
16299	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16299
16300	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16300
16301	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16301
16302	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16302
16303	55-SoCal_Paper (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16303
16307	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16307
16308	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16308
16309	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16309
16310	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16310
16311	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16311
16312	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16312
16313	55-SoCal_Paper (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16313
16317	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16317
16318	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16318
16319	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16319
16320	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16320
16321	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16321
16322	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16322
16323	55-SoCal_Paper (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16323
16327	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16327
16328	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16328
16329	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16329
16330	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16330
16331	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16331
16332	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16332
16333	55-SoCal_Paper (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16333
16337	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16337
16338	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16338
16339	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16339
16340	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16340
16341	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16341
16342	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16342
16343	55-SoCal_Paper (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16343
16347	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16347

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16348	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16348
16349	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16349
16350	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16350
16351	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16351
16352	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16352
16353	55-SoCal_Paper (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16353
16357	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16357
16358	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16358
16359	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16359
16360	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16360
16361	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16361
16362	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16362
16363	55-SoCal_Paper (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16363
16367	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16367
16368	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16368
16369	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16369
16370	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16370
16371	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16371
16372	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16372
16373	55-SoCal_Paper (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16373
16377	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16377
16378	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16378
16379	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16379
16380	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16380
16381	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16381
16382	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16382
16383	55-SoCal_Paper (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16383
16387	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16387
16388	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16388
16389	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16389
16390	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16390
16391	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16391
16392	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16392
16393	55-SoCal_Paper (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16393
16397	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16397
16398	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16398

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16399	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16399
16400	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16400
16401	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16401
16402	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16402
16403	55-SoCal_Paper (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16403
16407	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16407
16408	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16408
16409	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16409
16410	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16410
16411	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16411
16412	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16412
16413	55-SoCal_Paper (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16413
16417	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16417
16418	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16418
16419	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16419
16420	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16420
16421	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16421
16422	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16422
16423	55-SoCal_Paper (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16423
16427	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16427
16428	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16428
16429	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16429
16430	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16430
16431	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16431
16432	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16432
16433	55-SoCal_Paper (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16433
16437	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16437
16438	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16438
16439	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16439
16440	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16440
16441	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16441
16442	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16442
16443	55-SoCal_Paper (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16443
16447	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16447
16448	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16448
16449	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16449

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16450	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16450
16451	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16451
16452	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16452
16453	55-SoCal_Paper (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16453
16597	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16597
16598	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16598
16599	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16599
16600	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16600
16601	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16601
16602	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16602
16603	56-SoCal_Paper (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16603
16607	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16607
16608	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16608
16609	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16609
16610	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16610
16611	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16611
16612	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16612
16613	56-SoCal_Paper (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16613
16617	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16617
16618	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16618
16619	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16619
16620	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16620
16621	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16621
16622	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16622
16623	56-SoCal_Paper (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16623
16627	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16627
16628	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16628
16629	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16629
16630	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16630
16631	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16631
16632	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16632
16633	56-SoCal_Paper (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16633
16637	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16637
16638	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16638
16639	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16639
16640	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16640

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16641	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16641
16642	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16642
16643	56-SoCal_Paper (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16643
16647	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16647
16648	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16648
16649	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16649
16650	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16650
16651	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16651
16652	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16652
16653	56-SoCal_Paper (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16653
16657	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16657
16658	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16658
16659	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16659
16660	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16660
16661	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16661
16662	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16662
16663	56-SoCal_Paper (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16663
16667	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16667
16668	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16668
16669	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16669
16670	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16670
16671	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16671
16672	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16672
16673	56-SoCal_Paper (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16673
16677	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16677
16678	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16678
16679	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16679
16680	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16680
16681	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16681
16682	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16682
16683	56-SoCal_Paper (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16683
16687	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16687
16688	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16688
16689	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16689
16690	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16690
16691	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16691

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16692	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16692
16693	56-SoCal_Paper (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16693
16697	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16697
16698	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16698
16699	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16699
16700	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16700
16701	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16701
16702	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16702
16703	56-SoCal_Paper (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16703
16707	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16707
16708	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16708
16709	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16709
16710	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16710
16711	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16711
16712	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16712
16713	56-SoCal_Paper (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16713
16717	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16717
16718	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16718
16719	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16719
16720	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16720
16721	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16721
16722	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16722
16723	56-SoCal_Paper (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16723
16727	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16727
16728	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16728
16729	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16729
16730	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16730
16731	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16731
16732	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16732
16733	56-SoCal_Paper (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16733
16737	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16737
16738	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16738
16739	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16739
16740	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16740
16741	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16741
16742	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16742

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16743	56-SoCal_Paper (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16743
16747	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16747
16748	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16748
16749	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16749
16750	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16750
16751	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16751
16752	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16752
16753	56-SoCal_Paper (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16753
16897	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16897
16898	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16898
16899	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16899
16900	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16900
16901	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16901
16902	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16902
16903	57-SoCal_Paper (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16903
16907	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16907
16908	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16908
16909	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16909
16910	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16910
16911	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16911
16912	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16912
16913	57-SoCal_Paper (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16913
16917	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16917
16918	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16918
16919	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16919
16920	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16920
16921	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16921
16922	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16922
16923	57-SoCal_Paper (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16923
16927	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16927
16928	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16928
16929	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16929
16930	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16930
16931	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16931
16932	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16932
16933	57-SoCal_Paper (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16933

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16937	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16937
16938	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16938
16939	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16939
16940	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16940
16941	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16941
16942	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16942
16943	57-SoCal_Paper (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16943
16947	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16947
16948	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16948
16949	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16949
16950	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16950
16951	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16951
16952	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16952
16953	57-SoCal_Paper (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16953
16957	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16957
16958	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16958
16959	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16959
16960	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16960
16961	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16961
16962	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16962
16963	57-SoCal_Paper (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16963
16967	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16967
16968	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16968
16969	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16969
16970	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16970
16971	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16971
16972	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16972
16973	57-SoCal_Paper (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16973
16977	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16977
16978	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16978
16979	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16979
16980	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16980
16981	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16981
16982	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16982
16983	57-SoCal_Paper (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16983
16987	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16987

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
16988	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16988
16989	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16989
16990	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16990
16991	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16991
16992	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16992
16993	57-SoCal_Paper (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16993
16997	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16997
16998	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16998
16999	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV16999
17000	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17000
17001	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17001
17002	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17002
17003	57-SoCal_Paper (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17003
17007	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17007
17008	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17008
17009	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17009
17010	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17010
17011	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17011
17012	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17012
17013	57-SoCal_Paper (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17013
17017	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17017
17018	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17018
17019	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17019
17020	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17020
17021	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17021
17022	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17022
17023	57-SoCal_Paper (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17023
17027	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17027
17028	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17028
17029	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17029
17030	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17030
17031	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17031
17032	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17032
17033	57-SoCal_Paper (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17033
17037	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17037
17038	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17038

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17039	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17039
17040	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17040
17041	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17041
17042	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17042
17043	57-SoCal_Paper (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17043
17047	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17047
17048	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17048
17049	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17049
17050	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17050
17051	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17051
17052	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17052
17053	57-SoCal_Paper (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17053
17197	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17197
17198	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17198
17199	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17199
17200	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17200
17201	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17201
17202	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17202
17203	58-SoCal_Paper (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17203
17207	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17207
17208	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17208
17209	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17209
17210	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17210
17211	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17211
17212	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17212
17213	58-SoCal_Paper (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17213
17217	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17217
17218	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17218
17219	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17219
17220	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17220
17221	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17221
17222	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17222
17223	58-SoCal_Paper (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17223
17227	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17227
17228	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17228
17229	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17229

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17230	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17230
17231	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17231
17232	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17232
17233	58-SoCal_Paper (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17233
17237	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17237
17238	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17238
17239	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17239
17240	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17240
17241	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17241
17242	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17242
17243	58-SoCal_Paper (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17243
17247	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17247
17248	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17248
17249	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17249
17250	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17250
17251	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17251
17252	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17252
17253	58-SoCal_Paper (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17253
17257	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17257
17258	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17258
17259	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17259
17260	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17260
17261	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17261
17262	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17262
17263	58-SoCal_Paper (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17263
17267	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17267
17268	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17268
17269	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17269
17270	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17270
17271	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17271
17272	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17272
17273	58-SoCal_Paper (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17273
17277	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17277
17278	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17278
17279	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17279
17280	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17280

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17281	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17281
17282	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17282
17283	58-SoCal_Paper (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17283
17287	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17287
17288	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17288
17289	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17289
17290	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17290
17291	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17291
17292	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17292
17293	58-SoCal_Paper (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17293
17297	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17297
17298	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17298
17299	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17299
17300	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17300
17301	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17301
17302	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17302
17303	58-SoCal_Paper (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17303
17307	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17307
17308	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17308
17309	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17309
17310	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17310
17311	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17311
17312	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17312
17313	58-SoCal_Paper (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17313
17317	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17317
17318	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17318
17319	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17319
17320	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17320
17321	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17321
17322	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17322
17323	58-SoCal_Paper (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17323
17327	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17327
17328	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17328
17329	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17329
17330	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17330
17331	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17331

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17332	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17332
17333	58-SoCal_Paper (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17333
17337	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17337
17338	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17338
17339	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17339
17340	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17340
17341	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17341
17342	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17342
17343	58-SoCal_Paper (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17343
17347	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17347
17348	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17348
17349	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17349
17350	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17350
17351	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17351
17352	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17352
17353	58-SoCal_Paper (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17353
17497	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17497
17498	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17498
17499	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17499
17500	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17500
17501	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17501
17502	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17502
17503	59-SoCal_Paper (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17503
17507	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17507
17508	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17508
17509	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17509
17510	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17510
17511	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17511
17512	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17512
17513	59-SoCal_Paper (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17513
17517	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17517
17518	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17518
17519	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17519
17520	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17520
17521	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17521
17522	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17522

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17523	59-SoCal_Paper (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17523
17527	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17527
17528	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17528
17529	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17529
17530	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17530
17531	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17531
17532	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17532
17533	59-SoCal_Paper (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17533
17537	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17537
17538	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17538
17539	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17539
17540	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17540
17541	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17541
17542	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17542
17543	59-SoCal_Paper (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17543
17547	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17547
17548	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17548
17549	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17549
17550	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17550
17551	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17551
17552	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17552
17553	59-SoCal_Paper (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17553
17557	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17557
17558	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17558
17559	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17559
17560	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17560
17561	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17561
17562	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17562
17563	59-SoCal_Paper (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17563
17567	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17567
17568	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17568
17569	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17569
17570	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17570
17571	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17571
17572	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17572
17573	59-SoCal_Paper (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17573

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17577	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17577
17578	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17578
17579	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17579
17580	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17580
17581	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17581
17582	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17582
17583	59-SoCal_Paper (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17583
17587	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17587
17588	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17588
17589	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17589
17590	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17590
17591	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17591
17592	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17592
17593	59-SoCal_Paper (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17593
17597	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17597
17598	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17598
17599	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17599
17600	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17600
17601	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17601
17602	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17602
17603	59-SoCal_Paper (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17603
17607	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17607
17608	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17608
17609	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17609
17610	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17610
17611	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17611
17612	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17612
17613	59-SoCal_Paper (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17613
17617	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17617
17618	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17618
17619	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17619
17620	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17620
17621	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17621
17622	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17622
17623	59-SoCal_Paper (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17623
17627	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17627

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17628	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17628
17629	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17629
17630	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17630
17631	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17631
17632	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17632
17633	59-SoCal_Paper (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17633
17637	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17637
17638	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17638
17639	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17639
17640	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17640
17641	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17641
17642	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17642
17643	59-SoCal_Paper (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17643
17647	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17647
17648	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17648
17649	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17649
17650	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17650
17651	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17651
17652	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17652
17653	59-SoCal_Paper (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17653
17797	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17797
17798	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	319172.88	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17798
17799	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17799
17800	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17800
17801	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5468183.43	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17801
17802	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17802
17803	60-SoCal_Paper (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17803
17807	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17807
17808	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	386799.60	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17808
17809	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17809
17810	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17810
17811	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5542857.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17811
17812	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17812
17813	60-SoCal_Paper (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17813
17817	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17817
17818	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	451638.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17818

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17819	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17819
17820	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17820
17821	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5602424.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17821
17822	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17822
17823	60-SoCal_Paper (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17823
17827	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17827
17828	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	514805.51	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17828
17829	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17829
17830	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17830
17831	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5663959.19	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17831
17832	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17832
17833	60-SoCal_Paper (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17833
17837	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17837
17838	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	576101.10	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17838
17839	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17839
17840	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17840
17841	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5724327.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17841
17842	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17842
17843	60-SoCal_Paper (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17843
17847	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17847
17848	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	635245.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17848
17849	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17849
17850	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17850
17851	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5780786.91	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17851
17852	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17852
17853	60-SoCal_Paper (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17853
17857	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17857
17858	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	691645.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17858
17859	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17859
17860	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17860
17861	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5828721.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17861
17862	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17862
17863	60-SoCal_Paper (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17863
17867	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17867
17868	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	746324.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17868
17869	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17869

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17870	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17870
17871	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5877382.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17871
17872	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17872
17873	60-SoCal_Paper (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17873
17877	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17877
17878	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	798951.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17878
17879	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17879
17880	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17880
17881	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5923642.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17881
17882	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17882
17883	60-SoCal_Paper (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17883
17887	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17887
17888	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	850947.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17888
17889	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17889
17890	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17890
17891	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	5977376.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17891
17892	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17892
17893	60-SoCal_Paper (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17893
17897	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17897
17898	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	923557.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17898
17899	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17899
17900	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17900
17901	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6013235.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17901
17902	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17902
17903	60-SoCal_Paper (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17903
17907	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17907
17908	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	994158.12	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17908
17909	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17909
17910	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17910
17911	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6052998.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17911
17912	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17912
17913	60-SoCal_Paper (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17913
17917	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17917
17918	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1064760.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17918
17919	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17919
17920	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17920

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
17921	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6106848.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17921
17922	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17922
17923	60-SoCal_Paper (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17923
17927	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17927
17928	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1131862.80	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17928
17929	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17929
17930	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17930
17931	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6152972.47	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17931
17932	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17932
17933	60-SoCal_Paper (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17933
17937	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17937
17938	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1197306.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17938
17939	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17939
17940	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17940
17941	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6201573.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17941
17942	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17942
17943	60-SoCal_Paper (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17943
17947	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17947
17948	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	1260536.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17948
17949	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17949
17950	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17950
17951	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	6249147.82	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17951
17952	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17952
17953	60-SoCal_Paper (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV17953
18097	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18097
18098	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	126071.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18098
18099	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18099
18100	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18100
18101	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18101
18102	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18102
18103	61-SoCal_Chemicals (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18103
18107	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18107
18108	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	150937.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18108
18109	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18109
18110	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18110
18111	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18111

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18112	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18112
18113	61-SoCal_Chemicals (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18113
18117	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18117
18118	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	174219.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18118
18119	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18119
18120	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18120
18121	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18121
18122	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18122
18123	61-SoCal_Chemicals (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18123
18127	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18127
18128	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	195981.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18128
18129	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18129
18130	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18130
18131	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18131
18132	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18132
18133	61-SoCal_Chemicals (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18133
18137	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18137
18138	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	216293.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18138
18139	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18139
18140	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18140
18141	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18141
18142	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18142
18143	61-SoCal_Chemicals (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18143
18147	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18147
18148	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	235230.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18148
18149	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18149
18150	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18150
18151	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18151
18152	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18152
18153	61-SoCal_Chemicals (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18153
18157	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18157
18158	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	252874.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18158
18159	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18159
18160	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18160
18161	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18161
18162	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18162

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18163	61-SoCal_Chemicals (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18163
18167	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18167
18168	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	269308.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18168
18169	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18169
18170	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18170
18171	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18171
18172	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18172
18173	61-SoCal_Chemicals (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18173
18177	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18177
18178	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	284614.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18178
18179	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18179
18180	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18180
18181	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18181
18182	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18182
18183	61-SoCal_Chemicals (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18183
18187	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18187
18188	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	298874.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18188
18189	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18189
18190	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18190
18191	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18191
18192	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18192
18193	61-SoCal_Chemicals (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18193
18197	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18197
18198	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	321598.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18198
18199	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18199
18200	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18200
18201	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18201
18202	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18202
18203	61-SoCal_Chemicals (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18203
18207	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18207
18208	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	342856.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18208
18209	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18209
18210	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18210
18211	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18211
18212	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18212
18213	61-SoCal_Chemicals (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18213

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18217	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18217
18218	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	362752.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18218
18219	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18219
18220	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18220
18221	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18221
18222	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18222
18223	61-SoCal_Chemicals (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18223
18227	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18227
18228	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	381383.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18228
18229	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18229
18230	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18230
18231	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18231
18232	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18232
18233	61-SoCal_Chemicals (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18233
18237	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18237
18238	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	398839.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18238
18239	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18239
18240	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18240
18241	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18241
18242	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18242
18243	61-SoCal_Chemicals (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18243
18247	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18247
18248	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	415203.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18248
18249	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18249
18250	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18250
18251	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18251
18252	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18252
18253	61-SoCal_Chemicals (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18253
18397	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18397
18398	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	126071.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18398
18399	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18399
18400	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18400
18401	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18401
18402	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18402
18403	62-SoCal_Chemicals (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18403
18407	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18407

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18408	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	150937.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18408
18409	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18409
18410	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18410
18411	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18411
18412	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18412
18413	62-SoCal_Chemicals (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18413
18417	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18417
18418	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	174219.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18418
18419	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18419
18420	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18420
18421	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18421
18422	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18422
18423	62-SoCal_Chemicals (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18423
18427	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18427
18428	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	195981.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18428
18429	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18429
18430	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18430
18431	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18431
18432	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18432
18433	62-SoCal_Chemicals (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18433
18437	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18437
18438	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	216293.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18438
18439	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18439
18440	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18440
18441	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18441
18442	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18442
18443	62-SoCal_Chemicals (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18443
18447	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18447
18448	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	235230.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18448
18449	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18449
18450	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18450
18451	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18451
18452	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18452
18453	62-SoCal_Chemicals (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18453
18457	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18457
18458	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	252874.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18458

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18459	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18459
18460	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18460
18461	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18461
18462	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18462
18463	62-SoCal_Chemicals (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18463
18467	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18467
18468	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	269308.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18468
18469	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18469
18470	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18470
18471	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18471
18472	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18472
18473	62-SoCal_Chemicals (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18473
18477	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18477
18478	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	284614.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18478
18479	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18479
18480	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18480
18481	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18481
18482	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18482
18483	62-SoCal_Chemicals (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18483
18487	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18487
18488	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	298874.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18488
18489	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18489
18490	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18490
18491	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18491
18492	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18492
18493	62-SoCal_Chemicals (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18493
18497	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18497
18498	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	321598.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18498
18499	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18499
18500	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18500
18501	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18501
18502	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18502
18503	62-SoCal_Chemicals (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18503
18507	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18507
18508	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	342856.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18508
18509	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18509

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18510	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18510
18511	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18511
18512	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18512
18513	62-SoCal_Chemicals (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18513
18517	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18517
18518	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	362752.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18518
18519	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18519
18520	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18520
18521	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18521
18522	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18522
18523	62-SoCal_Chemicals (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18523
18527	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18527
18528	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	381383.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18528
18529	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18529
18530	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18530
18531	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18531
18532	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18532
18533	62-SoCal_Chemicals (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18533
18537	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18537
18538	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	398839.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18538
18539	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18539
18540	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18540
18541	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18541
18542	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18542
18543	62-SoCal_Chemicals (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18543
18547	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18547
18548	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	415203.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18548
18549	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18549
18550	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18550
18551	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18551
18552	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18552
18553	62-SoCal_Chemicals (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18553
18697	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18697
18698	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	126071.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18698
18699	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18699
18700	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18700

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18701	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18701
18702	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18702
18703	63-SoCal_Chemicals (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18703
18707	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18707
18708	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	150937.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18708
18709	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18709
18710	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18710
18711	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18711
18712	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18712
18713	63-SoCal_Chemicals (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18713
18717	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18717
18718	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	174219.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18718
18719	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18719
18720	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18720
18721	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18721
18722	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18722
18723	63-SoCal_Chemicals (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18723
18727	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18727
18728	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	195981.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18728
18729	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18729
18730	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18730
18731	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18731
18732	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18732
18733	63-SoCal_Chemicals (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18733
18737	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18737
18738	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	216293.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18738
18739	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18739
18740	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18740
18741	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18741
18742	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18742
18743	63-SoCal_Chemicals (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18743
18747	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18747
18748	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	235230.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18748
18749	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18749
18750	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18750
18751	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18751

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18752	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18752
18753	63-SoCal_Chemicals (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18753
18757	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18757
18758	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	252874.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18758
18759	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18759
18760	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18760
18761	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18761
18762	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18762
18763	63-SoCal_Chemicals (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18763
18767	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18767
18768	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	269308.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18768
18769	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18769
18770	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18770
18771	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18771
18772	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18772
18773	63-SoCal_Chemicals (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18773
18777	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18777
18778	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	284614.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18778
18779	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18779
18780	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18780
18781	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18781
18782	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18782
18783	63-SoCal_Chemicals (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18783
18787	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18787
18788	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	298874.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18788
18789	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18789
18790	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18790
18791	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18791
18792	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18792
18793	63-SoCal_Chemicals (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18793
18797	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18797
18798	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	321598.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18798
18799	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18799
18800	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18800
18801	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18801
18802	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18802

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18803	63-SoCal_Chemicals (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18803
18807	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18807
18808	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	342856.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18808
18809	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18809
18810	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18810
18811	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18811
18812	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18812
18813	63-SoCal_Chemicals (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18813
18817	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18817
18818	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	362752.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18818
18819	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18819
18820	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18820
18821	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18821
18822	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18822
18823	63-SoCal_Chemicals (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18823
18827	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18827
18828	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	381383.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18828
18829	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18829
18830	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18830
18831	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18831
18832	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18832
18833	63-SoCal_Chemicals (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18833
18837	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18837
18838	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	398839.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18838
18839	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18839
18840	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18840
18841	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18841
18842	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18842
18843	63-SoCal_Chemicals (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18843
18847	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18847
18848	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	415203.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18848
18849	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18849
18850	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18850
18851	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18851
18852	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18852
18853	63-SoCal_Chemicals (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18853

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
18997	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18997
18998	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	126071.90	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18998
18999	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV18999
19000	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19000
19001	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19001
19002	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19002
19003	64-SoCal_Chemicals (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19003
19007	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19007
19008	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	150937.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19008
19009	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19009
19010	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19010
19011	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19011
19012	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19012
19013	64-SoCal_Chemicals (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19013
19017	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19017
19018	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	174219.36	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19018
19019	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19019
19020	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19020
19021	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19021
19022	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19022
19023	64-SoCal_Chemicals (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19023
19027	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19027
19028	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	195981.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19028
19029	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19029
19030	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19030
19031	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19031
19032	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19032
19033	64-SoCal_Chemicals (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19033
19037	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19037
19038	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	216293.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19038
19039	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19039
19040	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19040
19041	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19041
19042	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19042
19043	64-SoCal_Chemicals (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19043
19047	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19047

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
19048	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	235230.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19048
19049	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19049
19050	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19050
19051	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19051
19052	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19052
19053	64-SoCal_Chemicals (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19053
19057	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19057
19058	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	252874.62	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19058
19059	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19059
19060	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19060
19061	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19061
19062	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19062
19063	64-SoCal_Chemicals (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19063
19067	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19067
19068	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	269308.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19068
19069	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19069
19070	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19070
19071	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19071
19072	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19072
19073	64-SoCal_Chemicals (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19073
19077	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19077
19078	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	284614.31	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19078
19079	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19079
19080	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19080
19081	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19081
19082	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19082
19083	64-SoCal_Chemicals (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19083
19087	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19087
19088	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	298874.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19088
19089	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19089
19090	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19090
19091	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19091
19092	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19092
19093	64-SoCal_Chemicals (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19093
19097	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19097
19098	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	321598.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19098

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2	**Tab Contents**				
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6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
19099	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19099
19100	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19100
19101	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19101
19102	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19102
19103	64-SoCal_Chemicals (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19103
19107	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19107
19108	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	342856.14	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19108
19109	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19109
19110	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19110
19111	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19111
19112	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19112
19113	64-SoCal_Chemicals (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19113
19117	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19117
19118	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	362752.30	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19118
19119	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19119
19120	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19120
19121	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19121
19122	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19122
19123	64-SoCal_Chemicals (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19123
19127	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19127
19128	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	381383.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19128
19129	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19129
19130	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19130
19131	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19131
19132	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19132
19133	64-SoCal_Chemicals (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19133
19137	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19137
19138	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	398839.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19138
19139	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19139
19140	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19140
19141	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19141
19142	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19142
19143	64-SoCal_Chemicals (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19143
19147	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19147
19148	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	415203.98	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19148
19149	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19149

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19150	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19150
19151	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19151
19152	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19152
19153	64-SoCal_Chemicals (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19153
19297	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19297
19298	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19298
19299	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19299
19300	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19300
19301	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19301
19302	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19302
19303	65-SoCal_Chemicals (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19303
19307	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19307
19308	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19308
19309	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19309
19310	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19310
19311	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19311
19312	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19312
19313	65-SoCal_Chemicals (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19313
19317	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19317
19318	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19318
19319	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19319
19320	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19320
19321	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19321
19322	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19322
19323	65-SoCal_Chemicals (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19323
19327	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19327
19328	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19328
19329	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19329
19330	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19330
19331	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19331
19332	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19332
19333	65-SoCal_Chemicals (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19333
19337	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19337
19338	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19338
19339	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19339
19340	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19340

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
19341	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19341
19342	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19342
19343	65-SoCal_Chemicals (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19343
19347	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19347
19348	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19348
19349	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19349
19350	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19350
19351	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19351
19352	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19352
19353	65-SoCal_Chemicals (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19353
19357	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19357
19358	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19358
19359	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19359
19360	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19360
19361	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19361
19362	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19362
19363	65-SoCal_Chemicals (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19363
19367	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19367
19368	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19368
19369	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19369
19370	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19370
19371	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19371
19372	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19372
19373	65-SoCal_Chemicals (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19373
19377	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19377
19378	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19378
19379	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19379
19380	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19380
19381	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19381
19382	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19382
19383	65-SoCal_Chemicals (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19383
19387	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19387
19388	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19388
19389	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19389
19390	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19390
19391	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19391

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
19392	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19392
19393	65-SoCal_Chemicals (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19393
19397	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19397
19398	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19398
19399	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19399
19400	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19400
19401	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19401
19402	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19402
19403	65-SoCal_Chemicals (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19403
19407	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19407
19408	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19408
19409	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19409
19410	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19410
19411	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19411
19412	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19412
19413	65-SoCal_Chemicals (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19413
19417	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19417
19418	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19418
19419	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19419
19420	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19420
19421	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19421
19422	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19422
19423	65-SoCal_Chemicals (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19423
19427	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19427
19428	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19428
19429	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19429
19430	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19430
19431	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19431
19432	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19432
19433	65-SoCal_Chemicals (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19433
19437	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19437
19438	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19438
19439	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19439
19440	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19440
19441	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19441
19442	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19442

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
19443	65-SoCal_Chemicals (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19443
19447	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19447
19448	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19448
19449	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19449
19450	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19450
19451	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19451
19452	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19452
19453	65-SoCal_Chemicals (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19453
19597	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19597
19598	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19598
19599	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19599
19600	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19600
19601	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19601
19602	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19602
19603	66-SoCal_Chemicals (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19603
19607	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19607
19608	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19608
19609	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19609
19610	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19610
19611	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19611
19612	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19612
19613	66-SoCal_Chemicals (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19613
19617	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19617
19618	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19618
19619	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19619
19620	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19620
19621	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19621
19622	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19622
19623	66-SoCal_Chemicals (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19623
19627	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19627
19628	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19628
19629	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19629
19630	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19630
19631	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19631
19632	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19632
19633	66-SoCal_Chemicals (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19633

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
19637	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19637
19638	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19638
19639	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19639
19640	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19640
19641	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19641
19642	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19642
19643	66-SoCal_Chemicals (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19643
19647	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19647
19648	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19648
19649	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19649
19650	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19650
19651	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19651
19652	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19652
19653	66-SoCal_Chemicals (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19653
19657	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19657
19658	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19658
19659	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19659
19660	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19660
19661	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19661
19662	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19662
19663	66-SoCal_Chemicals (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19663
19667	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19667
19668	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19668
19669	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19669
19670	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19670
19671	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19671
19672	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19672
19673	66-SoCal_Chemicals (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19673
19677	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19677
19678	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19678
19679	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19679
19680	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19680
19681	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19681
19682	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19682
19683	66-SoCal_Chemicals (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19683
19687	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19687

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19688	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19688
19689	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19689
19690	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19690
19691	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19691
19692	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19692
19693	66-SoCal_Chemicals (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19693
19697	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19697
19698	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19698
19699	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19699
19700	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19700
19701	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19701
19702	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19702
19703	66-SoCal_Chemicals (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19703
19707	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19707
19708	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19708
19709	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19709
19710	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19710
19711	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19711
19712	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19712
19713	66-SoCal_Chemicals (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19713
19717	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19717
19718	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19718
19719	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19719
19720	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19720
19721	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19721
19722	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19722
19723	66-SoCal_Chemicals (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19723
19727	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19727
19728	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19728
19729	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19729
19730	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19730
19731	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19731
19732	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19732
19733	66-SoCal_Chemicals (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19733
19737	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19737
19738	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19738

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5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19739	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19739
19740	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19740
19741	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19741
19742	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19742
19743	66-SoCal_Chemicals (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19743
19747	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19747
19748	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19748
19749	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19749
19750	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19750
19751	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19751
19752	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19752
19753	66-SoCal_Chemicals (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19753
19897	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19897
19898	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19898
19899	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19899
19900	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19900
19901	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19901
19902	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19902
19903	67-SoCal_Chemicals (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19903
19907	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19907
19908	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19908
19909	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19909
19910	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19910
19911	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19911
19912	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19912
19913	67-SoCal_Chemicals (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19913
19917	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19917
19918	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19918
19919	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19919
19920	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19920
19921	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19921
19922	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19922
19923	67-SoCal_Chemicals (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19923
19927	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19927
19928	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19928
19929	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19929

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19930	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19930
19931	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19931
19932	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19932
19933	67-SoCal_Chemicals (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19933
19937	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19937
19938	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19938
19939	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19939
19940	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19940
19941	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19941
19942	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19942
19943	67-SoCal_Chemicals (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19943
19947	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19947
19948	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19948
19949	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19949
19950	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19950
19951	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19951
19952	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19952
19953	67-SoCal_Chemicals (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19953
19957	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19957
19958	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19958
19959	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19959
19960	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19960
19961	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19961
19962	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19962
19963	67-SoCal_Chemicals (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19963
19967	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19967
19968	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19968
19969	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19969
19970	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19970
19971	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19971
19972	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19972
19973	67-SoCal_Chemicals (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19973
19977	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19977
19978	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19978
19979	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19979
19980	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19980

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19981	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19981
19982	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19982
19983	67-SoCal_Chemicals (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19983
19987	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19987
19988	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19988
19989	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19989
19990	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19990
19991	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19991
19992	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19992
19993	67-SoCal_Chemicals (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19993
19997	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19997
19998	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19998
19999	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV19999
20000	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20000
20001	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20001
20002	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20002
20003	67-SoCal_Chemicals (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20003
20007	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20007
20008	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20008
20009	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20009
20010	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20010
20011	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20011
20012	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20012
20013	67-SoCal_Chemicals (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20013
20017	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20017
20018	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20018
20019	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20019
20020	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20020
20021	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20021
20022	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20022
20023	67-SoCal_Chemicals (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20023
20027	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20027
20028	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20028
20029	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20029
20030	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20030
20031	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20031

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20032	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20032
20033	67-SoCal_Chemicals (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20033
20037	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20037
20038	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20038
20039	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20039
20040	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20040
20041	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20041
20042	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20042
20043	67-SoCal_Chemicals (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20043
20047	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20047
20048	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20048
20049	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20049
20050	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20050
20051	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20051
20052	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20052
20053	67-SoCal_Chemicals (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20053
20197	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20197
20198	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20198
20199	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20199
20200	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20200
20201	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20201
20202	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20202
20203	68-SoCal_Chemicals (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20203
20207	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20207
20208	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20208
20209	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20209
20210	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20210
20211	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20211
20212	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20212
20213	68-SoCal_Chemicals (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20213
20217	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20217
20218	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20218
20219	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20219
20220	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20220
20221	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20221
20222	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20222

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20223	68-SoCal_Chemicals (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20223
20227	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20227
20228	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20228
20229	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20229
20230	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20230
20231	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20231
20232	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20232
20233	68-SoCal_Chemicals (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20233
20237	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20237
20238	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20238
20239	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20239
20240	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20240
20241	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20241
20242	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20242
20243	68-SoCal_Chemicals (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20243
20247	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20247
20248	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20248
20249	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20249
20250	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20250
20251	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20251
20252	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20252
20253	68-SoCal_Chemicals (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20253
20257	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20257
20258	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20258
20259	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20259
20260	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20260
20261	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20261
20262	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20262
20263	68-SoCal_Chemicals (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20263
20267	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20267
20268	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20268
20269	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20269
20270	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20270
20271	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20271
20272	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20272
20273	68-SoCal_Chemicals (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20273

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20277	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20277
20278	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20278
20279	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20279
20280	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20280
20281	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20281
20282	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20282
20283	68-SoCal_Chemicals (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20283
20287	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20287
20288	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20288
20289	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20289
20290	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20290
20291	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20291
20292	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20292
20293	68-SoCal_Chemicals (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20293
20297	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20297
20298	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20298
20299	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20299
20300	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20300
20301	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20301
20302	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20302
20303	68-SoCal_Chemicals (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20303
20307	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20307
20308	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20308
20309	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20309
20310	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20310
20311	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20311
20312	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20312
20313	68-SoCal_Chemicals (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20313
20317	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20317
20318	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20318
20319	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20319
20320	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20320
20321	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20321
20322	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20322
20323	68-SoCal_Chemicals (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20323
20327	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20327

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20328	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20328
20329	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20329
20330	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20330
20331	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20331
20332	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20332
20333	68-SoCal_Chemicals (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20333
20337	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20337
20338	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20338
20339	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20339
20340	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20340
20341	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20341
20342	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20342
20343	68-SoCal_Chemicals (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20343
20347	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20347
20348	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20348
20349	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20349
20350	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20350
20351	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20351
20352	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20352
20353	68-SoCal_Chemicals (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20353
20497	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20497
20498	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20498
20499	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20499
20500	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20500
20501	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20501
20502	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20502
20503	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20503
20507	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20507
20508	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20508
20509	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20509
20510	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20510
20511	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20511
20512	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20512
20513	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20513
20517	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20517
20518	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20518

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20519	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20519
20520	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20520
20521	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20521
20522	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20522
20523	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20523
20527	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20527
20528	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20528
20529	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20529
20530	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20530
20531	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20531
20532	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20532
20533	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20533
20537	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20537
20538	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20538
20539	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20539
20540	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20540
20541	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20541
20542	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20542
20543	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20543
20547	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20547
20548	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20548
20549	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20549
20550	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20550
20551	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20551
20552	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20552
20553	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20553
20557	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20557
20558	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20558
20559	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20559
20560	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20560
20561	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20561
20562	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20562
20563	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20563
20567	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20567
20568	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20568
20569	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20569

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20570	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20570
20571	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20571
20572	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20572
20573	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20573
20577	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20577
20578	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20578
20579	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20579
20580	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20580
20581	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20581
20582	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20582
20583	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20583
20587	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20587
20588	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20588
20589	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20589
20590	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20590
20591	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20591
20592	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20592
20593	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20593
20597	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20597
20598	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20598
20599	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20599
20600	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20600
20601	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20601
20602	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20602
20603	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20603
20607	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20607
20608	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20608
20609	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20609
20610	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20610
20611	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20611
20612	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20612
20613	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20613
20617	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20617
20618	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20618
20619	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20619
20620	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20620

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20621	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20621
20622	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20622
20623	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20623
20627	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20627
20628	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20628
20629	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20629
20630	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20630
20631	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20631
20632	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20632
20633	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20633
20637	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20637
20638	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20638
20639	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20639
20640	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20640
20641	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20641
20642	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20642
20643	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20643
20647	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20647
20648	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20648
20649	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20649
20650	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20650
20651	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20651
20652	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20652
20653	69-SoCal_Chemicals (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20653
20797	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20797
20798	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20798
20799	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20799
20800	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20800
20801	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20801
20802	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20802
20803	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20803
20807	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20807
20808	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20808
20809	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20809
20810	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20810
20811	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20811

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20812	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20812
20813	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20813
20817	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20817
20818	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20818
20819	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20819
20820	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20820
20821	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20821
20822	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20822
20823	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20823
20827	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20827
20828	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20828
20829	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20829
20830	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20830
20831	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20831
20832	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20832
20833	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20833
20837	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20837
20838	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20838
20839	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20839
20840	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20840
20841	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20841
20842	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20842
20843	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20843
20847	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20847
20848	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20848
20849	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20849
20850	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20850
20851	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20851
20852	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20852
20853	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20853
20857	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20857
20858	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20858
20859	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20859
20860	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20860
20861	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20861
20862	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20862

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20863	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20863
20867	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20867
20868	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20868
20869	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20869
20870	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20870
20871	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20871
20872	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20872
20873	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20873
20877	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20877
20878	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20878
20879	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20879
20880	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20880
20881	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20881
20882	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20882
20883	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20883
20887	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20887
20888	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20888
20889	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20889
20890	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20890
20891	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20891
20892	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20892
20893	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20893
20897	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20897
20898	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20898
20899	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20899
20900	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20900
20901	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20901
20902	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20902
20903	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20903
20907	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20907
20908	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20908
20909	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20909
20910	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20910
20911	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20911
20912	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20912
20913	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20913

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
20917	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20917
20918	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20918
20919	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20919
20920	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20920
20921	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20921
20922	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20922
20923	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20923
20927	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20927
20928	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20928
20929	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20929
20930	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20930
20931	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20931
20932	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20932
20933	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20933
20937	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20937
20938	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20938
20939	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20939
20940	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20940
20941	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20941
20942	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20942
20943	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20943
20947	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20947
20948	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20948
20949	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20949
20950	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20950
20951	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20951
20952	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20952
20953	70-SoCal_Chemicals (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV20953
21097	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21097
21098	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21098
21099	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21099
21100	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21100
21101	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21101
21102	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21102
21103	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21103
21107	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21107

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21108	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21108
21109	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21109
21110	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21110
21111	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21111
21112	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21112
21113	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21113
21117	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21117
21118	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21118
21119	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21119
21120	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21120
21121	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21121
21122	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21122
21123	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21123
21127	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21127
21128	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21128
21129	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21129
21130	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21130
21131	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21131
21132	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21132
21133	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21133
21137	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21137
21138	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21138
21139	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21139
21140	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21140
21141	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21141
21142	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21142
21143	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21143
21147	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21147
21148	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21148
21149	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21149
21150	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21150
21151	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21151
21152	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21152
21153	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21153
21157	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21157
21158	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21158

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21159	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21159
21160	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21160
21161	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21161
21162	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21162
21163	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21163
21167	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21167
21168	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21168
21169	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21169
21170	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21170
21171	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21171
21172	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21172
21173	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21173
21177	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21177
21178	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21178
21179	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21179
21180	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21180
21181	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21181
21182	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21182
21183	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21183
21187	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21187
21188	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21188
21189	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21189
21190	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21190
21191	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21191
21192	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21192
21193	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21193
21197	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21197
21198	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21198
21199	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21199
21200	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21200
21201	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21201
21202	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21202
21203	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21203
21207	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21207
21208	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21208
21209	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21209

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21210	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21210
21211	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21211
21212	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21212
21213	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21213
21217	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21217
21218	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21218
21219	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21219
21220	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21220
21221	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21221
21222	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21222
21223	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21223
21227	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21227
21228	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21228
21229	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21229
21230	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21230
21231	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21231
21232	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21232
21233	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21233
21237	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21237
21238	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21238
21239	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21239
21240	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21240
21241	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21241
21242	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21242
21243	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21243
21247	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21247
21248	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21248
21249	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21249
21250	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21250
21251	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21251
21252	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21252
21253	71-SoCal_Chemicals (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21253
21397	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21397
21398	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	143716.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21398
21399	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21399
21400	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21400

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21401	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2754753.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21401
21402	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21402
21403	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21403
21407	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21407
21408	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	177530.74	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21408
21409	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21409
21410	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21410
21411	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2830582.25	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21411
21412	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21412
21413	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21413
21417	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21417
21418	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	211837.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21418
21419	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21419
21420	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21420
21421	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	2912895.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21421
21422	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21422
21423	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21423
21427	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21427
21428	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	247088.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21428
21429	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21429
21430	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21430
21431	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3005502.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21431
21432	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21432
21433	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21433
21437	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21437
21438	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	283430.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21438
21439	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21439
21440	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21440
21441	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3107485.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21441
21442	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21442
21443	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21443
21447	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21447
21448	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	320123.32	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21448
21449	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21449
21450	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21450
21451	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3209610.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21451

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21452	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21452
21453	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21453
21457	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21457
21458	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	357402.22	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21458
21459	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21459
21460	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21460
21461	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3314611.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21461
21462	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21462
21463	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21463
21467	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21467
21468	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	396305.03	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21468
21469	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21469
21470	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21470
21471	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3431401.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21471
21472	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21472
21473	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21473
21477	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21477
21478	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	435966.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21478
21479	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21479
21480	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21480
21481	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3551285.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21481
21482	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21482
21483	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21483
21487	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21487
21488	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	476942.95	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21488
21489	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21489
21490	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21490
21491	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3678542.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21491
21492	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21492
21493	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21493
21497	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21497
21498	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	535172.66	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21498
21499	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21499
21500	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21500
21501	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3814335.02	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21501
21502	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21502

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21503	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21503
21507	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21507
21508	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	595481.53	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21508
21509	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21509
21510	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21510
21511	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	3958968.58	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21511
21512	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21512
21513	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21513
21517	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21517
21518	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	657082.26	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21518
21519	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21519
21520	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21520
21521	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4106596.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21521
21522	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21522
21523	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21523
21527	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21527
21528	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	720361.96	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21528
21529	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21529
21530	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21530
21531	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4259673.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21531
21532	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21532
21533	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21533
21537	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21537
21538	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	784764.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21538
21539	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21539
21540	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21540
21541	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4414866.39	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21541
21542	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21542
21543	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21543
21547	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21547
21548	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	848263.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21548
21549	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21549
21550	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21550
21551	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	4561561.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21551
21552	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21552
21553	72-SoCal_Chemicals (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21553

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21697	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21697
21698	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	45248.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21698
21699	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21699
21700	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21700
21701	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21701
21702	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21702
21703	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21703
21707	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21707
21708	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	53711.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21708
21709	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21709
21710	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21710
21711	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21711
21712	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21712
21713	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21713
21717	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21717
21718	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	61573.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21718
21719	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21719
21720	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21720
21721	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21721
21722	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21722
21723	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21723
21727	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21727
21728	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	68857.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21728
21729	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21729
21730	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21730
21731	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21731
21732	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21732
21733	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21733
21737	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21737
21738	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	75589.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21738
21739	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21739
21740	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21740
21741	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21741
21742	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21742
21743	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21743
21747	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21747

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21748	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	81798.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21748
21749	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21749
21750	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21750
21751	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21751
21752	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21752
21753	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21753
21757	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21757
21758	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	87518.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21758
21759	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21759
21760	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21760
21761	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21761
21762	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21762
21763	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21763
21767	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21767
21768	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	92784.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21768
21769	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21769
21770	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21770
21771	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21771
21772	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21772
21773	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21773
21777	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21777
21778	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	97629.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21778
21779	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21779
21780	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21780
21781	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21781
21782	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21782
21783	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21783
21787	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21787
21788	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	102087.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21788
21789	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21789
21790	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21790
21791	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21791
21792	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21792
21793	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21793
21797	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21797
21798	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	109056.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21798

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
21799	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21799
21800	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21800
21801	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21801
21802	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21802
21803	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21803
21807	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21807
21808	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	115515.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21808
21809	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21809
21810	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21810
21811	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21811
21812	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21812
21813	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21813
21817	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21817
21818	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	121505.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21818
21819	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21819
21820	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21820
21821	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21821
21822	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21822
21823	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21823
21827	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21827
21828	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	127062.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21828
21829	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21829
21830	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21830
21831	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21831
21832	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21832
21833	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21833
21837	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21837
21838	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	132223.71	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21838
21839	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21839
21840	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21840
21841	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21841
21842	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21842
21843	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21843
21847	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21847
21848	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	137020.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21848
21849	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21849

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	*Fuel Type*	*Parameter*	Value	Reference
21850	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21850
21851	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21851
21852	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21852
21853	73-SoCal_AeroSpaceDefense (LowConservative_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21853
21997	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21997
21998	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	45248.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21998
21999	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV21999
22000	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22000
22001	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22001
22002	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22002
22003	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22003
22007	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22007
22008	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	53711.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22008
22009	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22009
22010	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22010
22011	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22011
22012	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22012
22013	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22013
22017	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22017
22018	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	61573.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22018
22019	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22019
22020	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22020
22021	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22021
22022	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22022
22023	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22023
22027	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22027
22028	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	68857.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22028
22029	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22029
22030	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22030
22031	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22031
22032	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22032
22033	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22033
22037	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22037
22038	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	75589.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22038
22039	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22039
22040	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22040

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2	**Tab Contents**				
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5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22041	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22041
22042	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22042
22043	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22043
22047	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22047
22048	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	81798.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22048
22049	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22049
22050	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22050
22051	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22051
22052	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22052
22053	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22053
22057	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22057
22058	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	87518.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22058
22059	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22059
22060	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22060
22061	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22061
22062	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22062
22063	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22063
22067	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22067
22068	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	92784.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22068
22069	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22069
22070	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22070
22071	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22071
22072	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22072
22073	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22073
22077	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22077
22078	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	97629.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22078
22079	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22079
22080	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22080
22081	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22081
22082	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22082
22083	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22083
22087	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22087
22088	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	102087.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22088
22089	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22089
22090	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22090
22091	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22091

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22092	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22092
22093	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22093
22097	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22097
22098	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	109056.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22098
22099	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22099
22100	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22100
22101	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22101
22102	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22102
22103	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22103
22107	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22107
22108	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	115515.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22108
22109	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22109
22110	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22110
22111	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22111
22112	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22112
22113	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22113
22117	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22117
22118	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	121505.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22118
22119	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22119
22120	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22120
22121	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22121
22122	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22122
22123	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22123
22127	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22127
22128	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	127062.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22128
22129	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22129
22130	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22130
22131	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22131
22132	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22132
22133	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22133
22137	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22137
22138	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	132223.71	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22138
22139	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22139
22140	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22140
22141	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22141
22142	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22142

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22143	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22143
22147	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22147
22148	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	137020.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22148
22149	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22149
22150	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22150
22151	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22151
22152	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22152
22153	74-SoCal_AeroSpaceDefense (LowConservative_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22153
22297	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22297
22298	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	45248.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22298
22299	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22299
22300	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22300
22301	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22301
22302	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22302
22303	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22303
22307	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22307
22308	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	53711.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22308
22309	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22309
22310	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22310
22311	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22311
22312	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22312
22313	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22313
22317	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22317
22318	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	61573.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22318
22319	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22319
22320	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22320
22321	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22321
22322	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22322
22323	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22323
22327	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22327
22328	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	68857.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22328
22329	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22329
22330	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22330
22331	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22331
22332	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22332
22333	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22333

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22337	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22337
22338	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	75589.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22338
22339	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22339
22340	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22340
22341	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22341
22342	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22342
22343	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22343
22347	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22347
22348	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	81798.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22348
22349	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22349
22350	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22350
22351	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22351
22352	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22352
22353	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22353
22357	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22357
22358	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	87518.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22358
22359	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22359
22360	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22360
22361	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22361
22362	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22362
22363	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22363
22367	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22367
22368	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	92784.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22368
22369	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22369
22370	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22370
22371	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22371
22372	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22372
22373	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22373
22377	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22377
22378	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	97629.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22378
22379	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22379
22380	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22380
22381	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22381
22382	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22382
22383	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22383
22387	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22387

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22388	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	102087.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22388
22389	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22389
22390	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22390
22391	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22391
22392	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22392
22393	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22393
22397	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22397
22398	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	109056.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22398
22399	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22399
22400	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22400
22401	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22401
22402	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22402
22403	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22403
22407	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22407
22408	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	115515.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22408
22409	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22409
22410	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22410
22411	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22411
22412	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22412
22413	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22413
22417	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22417
22418	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	121505.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22418
22419	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22419
22420	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22420
22421	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22421
22422	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22422
22423	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22423
22427	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22427
22428	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	127062.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22428
22429	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22429
22430	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22430
22431	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22431
22432	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22432
22433	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22433
22437	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22437
22438	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	132223.71	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22438

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22439	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22439
22440	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22440
22441	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22441
22442	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22442
22443	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22443
22447	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22447
22448	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	137020.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22448
22449	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22449
22450	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22450
22451	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22451
22452	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22452
22453	75-SoCal_AeroSpaceDefense (LowConservative_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22453
22597	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22597
22598	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	45248.89	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22598
22599	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22599
22600	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22600
22601	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22601
22602	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22602
22603	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22603
22607	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22607
22608	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	53711.42	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22608
22609	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22609
22610	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22610
22611	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22611
22612	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22612
22613	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22613
22617	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22617
22618	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	61573.54	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22618
22619	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22619
22620	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22620
22621	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22621
22622	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22622
22623	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22623
22627	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22627
22628	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	68857.34	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22628
22629	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22629

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22630	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22630
22631	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22631
22632	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22632
22633	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22633
22637	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22637
22638	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	75589.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22638
22639	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22639
22640	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22640
22641	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22641
22642	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22642
22643	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22643
22647	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22647
22648	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	81798.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22648
22649	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22649
22650	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22650
22651	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22651
22652	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22652
22653	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22653
22657	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22657
22658	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	87518.93	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22658
22659	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22659
22660	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22660
22661	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22661
22662	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22662
22663	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22663
22667	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22667
22668	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	92784.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22668
22669	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22669
22670	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22670
22671	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22671
22672	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22672
22673	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22673
22677	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22677
22678	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	97629.08	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22678
22679	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22679
22680	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22680

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22681	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22681
22682	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22682
22683	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22683
22687	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22687
22688	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	102087.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22688
22689	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22689
22690	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22690
22691	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22691
22692	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22692
22693	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22693
22697	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22697
22698	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	109056.84	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22698
22699	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22699
22700	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22700
22701	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22701
22702	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22702
22703	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22703
22707	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22707
22708	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	115515.68	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22708
22709	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22709
22710	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22710
22711	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22711
22712	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22712
22713	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22713
22717	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22717
22718	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	121505.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22718
22719	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22719
22720	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22720
22721	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22721
22722	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22722
22723	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22723
22727	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22727
22728	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	127062.70	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22728
22729	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22729
22730	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22730
22731	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22731

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22732	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22732
22733	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22733
22737	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22737
22738	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	132223.71	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22738
22739	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22739
22740	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22740
22741	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22741
22742	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22742
22743	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22743
22747	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22747
22748	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	137020.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22748
22749	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22749
22750	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22750
22751	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22751
22752	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22752
22753	76-SoCal_AeroSpaceDefense (LowConservative_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22753
22897	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22897
22898	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22898
22899	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22899
22900	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22900
22901	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22901
22902	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22902
22903	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22903
22907	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22907
22908	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22908
22909	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22909
22910	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22910
22911	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22911
22912	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22912
22913	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22913
22917	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22917
22918	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22918
22919	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22919
22920	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22920
22921	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22921
22922	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22922

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22923	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22923
22927	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22927
22928	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22928
22929	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22929
22930	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22930
22931	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22931
22932	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22932
22933	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22933
22937	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22937
22938	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22938
22939	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22939
22940	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22940
22941	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22941
22942	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22942
22943	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22943
22947	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22947
22948	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22948
22949	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22949
22950	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22950
22951	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22951
22952	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22952
22953	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22953
22957	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22957
22958	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22958
22959	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22959
22960	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22960
22961	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22961
22962	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22962
22963	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22963
22967	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22967
22968	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22968
22969	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22969
22970	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22970
22971	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22971
22972	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22972
22973	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22973

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
22977	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22977
22978	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22978
22979	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22979
22980	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22980
22981	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22981
22982	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22982
22983	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22983
22987	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22987
22988	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22988
22989	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22989
22990	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22990
22991	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22991
22992	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22992
22993	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22993
22997	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22997
22998	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22998
22999	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV22999
23000	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23000
23001	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23001
23002	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23002
23003	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23003
23007	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23007
23008	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23008
23009	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23009
23010	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23010
23011	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23011
23012	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23012
23013	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23013
23017	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23017
23018	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23018
23019	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23019
23020	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23020
23021	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23021
23022	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23022
23023	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23023
23027	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23027

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23028	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23028
23029	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23029
23030	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23030
23031	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23031
23032	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23032
23033	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23033
23037	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23037
23038	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23038
23039	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23039
23040	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23040
23041	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23041
23042	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23042
23043	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23043
23047	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23047
23048	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23048
23049	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23049
23050	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23050
23051	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23051
23052	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23052
23053	77-SoCal_AeroSpaceDefense (MidModerate_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23053
23197	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23197
23198	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23198
23199	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23199
23200	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23200
23201	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23201
23202	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23202
23203	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23203
23207	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23207
23208	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23208
23209	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23209
23210	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23210
23211	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23211
23212	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23212
23213	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23213
23217	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23217
23218	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23218

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23219	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23219
23220	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23220
23221	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23221
23222	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23222
23223	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23223
23227	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23227
23228	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23228
23229	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23229
23230	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23230
23231	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23231
23232	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23232
23233	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23233
23237	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23237
23238	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23238
23239	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23239
23240	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23240
23241	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23241
23242	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23242
23243	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23243
23247	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23247
23248	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23248
23249	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23249
23250	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23250
23251	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23251
23252	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23252
23253	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23253
23257	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23257
23258	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23258
23259	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23259
23260	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23260
23261	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23261
23262	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23262
23263	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23263
23267	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23267
23268	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23268
23269	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23269

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23270	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23270
23271	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23271
23272	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23272
23273	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23273
23277	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23277
23278	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23278
23279	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23279
23280	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23280
23281	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23281
23282	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23282
23283	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23283
23287	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23287
23288	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23288
23289	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23289
23290	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23290
23291	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23291
23292	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23292
23293	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23293
23297	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23297
23298	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23298
23299	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23299
23300	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23300
23301	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23301
23302	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23302
23303	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23303
23307	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23307
23308	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23308
23309	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23309
23310	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23310
23311	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23311
23312	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23312
23313	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23313
23317	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23317
23318	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23318
23319	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23319
23320	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23320

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23321	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23321
23322	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23322
23323	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23323
23327	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23327
23328	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23328
23329	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23329
23330	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23330
23331	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23331
23332	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23332
23333	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23333
23337	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23337
23338	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23338
23339	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23339
23340	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23340
23341	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23341
23342	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23342
23343	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23343
23347	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23347
23348	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23348
23349	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23349
23350	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23350
23351	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23351
23352	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23352
23353	78-SoCal_AeroSpaceDefense (MidModerate_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23353
23497	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23497
23498	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23498
23499	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23499
23500	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23500
23501	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23501
23502	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23502
23503	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23503
23507	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23507
23508	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23508
23509	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23509
23510	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23510
23511	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23511

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2	**Tab Contents**				
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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23512	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23512
23513	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23513
23517	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23517
23518	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23518
23519	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23519
23520	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23520
23521	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23521
23522	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23522
23523	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23523
23527	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23527
23528	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23528
23529	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23529
23530	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23530
23531	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23531
23532	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23532
23533	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23533
23537	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23537
23538	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23538
23539	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23539
23540	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23540
23541	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23541
23542	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23542
23543	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23543
23547	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23547
23548	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23548
23549	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23549
23550	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23550
23551	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23551
23552	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23552
23553	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23553
23557	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23557
23558	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23558
23559	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23559
23560	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23560
23561	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23561
23562	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23562

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23563	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23563
23567	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23567
23568	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23568
23569	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23569
23570	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23570
23571	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23571
23572	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23572
23573	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23573
23577	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23577
23578	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23578
23579	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23579
23580	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23580
23581	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23581
23582	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23582
23583	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23583
23587	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23587
23588	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23588
23589	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23589
23590	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23590
23591	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23591
23592	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23592
23593	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23593
23597	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23597
23598	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23598
23599	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23599
23600	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23600
23601	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23601
23602	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23602
23603	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23603
23607	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23607
23608	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23608
23609	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23609
23610	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23610
23611	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23611
23612	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23612
23613	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23613

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23617	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23617
23618	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23618
23619	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23619
23620	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23620
23621	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23621
23622	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23622
23623	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23623
23627	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23627
23628	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23628
23629	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23629
23630	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23630
23631	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23631
23632	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23632
23633	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23633
23637	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23637
23638	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23638
23639	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23639
23640	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23640
23641	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23641
23642	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23642
23643	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23643
23647	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23647
23648	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23648
23649	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23649
23650	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23650
23651	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23651
23652	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23652
23653	79-SoCal_AeroSpaceDefense (MidModerate_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23653
23797	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23797
23798	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23798
23799	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23799
23800	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23800
23801	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23801
23802	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23802
23803	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23803
23807	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23807

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23808	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23808
23809	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23809
23810	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23810
23811	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23811
23812	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23812
23813	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23813
23817	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23817
23818	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23818
23819	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23819
23820	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23820
23821	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23821
23822	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23822
23823	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23823
23827	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23827
23828	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23828
23829	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23829
23830	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23830
23831	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23831
23832	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23832
23833	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23833
23837	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23837
23838	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23838
23839	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23839
23840	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23840
23841	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23841
23842	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23842
23843	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23843
23847	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23847
23848	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23848
23849	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23849
23850	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23850
23851	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23851
23852	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23852
23853	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23853
23857	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23857
23858	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23858

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23859	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23859
23860	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23860
23861	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23861
23862	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23862
23863	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23863
23867	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23867
23868	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23868
23869	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23869
23870	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23870
23871	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23871
23872	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23872
23873	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23873
23877	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23877
23878	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23878
23879	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23879
23880	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23880
23881	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23881
23882	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23882
23883	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23883
23887	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23887
23888	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23888
23889	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23889
23890	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23890
23891	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23891
23892	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23892
23893	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23893
23897	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23897
23898	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23898
23899	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23899
23900	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23900
23901	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23901
23902	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23902
23903	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23903
23907	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23907
23908	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23908
23909	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23909

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
23910	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23910
23911	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23911
23912	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23912
23913	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23913
23917	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23917
23918	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23918
23919	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23919
23920	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23920
23921	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23921
23922	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23922
23923	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23923
23927	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23927
23928	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23928
23929	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23929
23930	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23930
23931	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23931
23932	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23932
23933	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23933
23937	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23937
23938	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23938
23939	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23939
23940	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23940
23941	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23941
23942	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23942
23943	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23943
23947	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23947
23948	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23948
23949	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23949
23950	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23950
23951	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23951
23952	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23952
23953	80-SoCal_AeroSpaceDefense (MidModerate_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV23953
24097	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24097
24098	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24098
24099	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24099
24100	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24100

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24101	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24101
24102	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24102
24103	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24103
24107	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24107
24108	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24108
24109	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24109
24110	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24110
24111	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24111
24112	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24112
24113	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24113
24117	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24117
24118	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24118
24119	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24119
24120	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24120
24121	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24121
24122	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24122
24123	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24123
24127	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24127
24128	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24128
24129	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24129
24130	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24130
24131	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24131
24132	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24132
24133	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24133
24137	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24137
24138	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24138
24139	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24139
24140	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24140
24141	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24141
24142	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24142
24143	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24143
24147	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24147
24148	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24148
24149	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24149
24150	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24150
24151	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24151

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24152	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24152
24153	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24153
24157	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24157
24158	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24158
24159	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24159
24160	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24160
24161	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24161
24162	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24162
24163	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24163
24167	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24167
24168	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24168
24169	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24169
24170	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24170
24171	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24171
24172	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24172
24173	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24173
24177	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24177
24178	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24178
24179	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24179
24180	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24180
24181	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24181
24182	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24182
24183	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24183
24187	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24187
24188	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24188
24189	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24189
24190	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24190
24191	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24191
24192	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24192
24193	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24193
24197	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24197
24198	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24198
24199	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24199
24200	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24200
24201	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24201
24202	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24202

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24203	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24203
24207	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24207
24208	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24208
24209	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24209
24210	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24210
24211	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24211
24212	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24212
24213	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24213
24217	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24217
24218	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24218
24219	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24219
24220	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24220
24221	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24221
24222	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24222
24223	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24223
24227	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24227
24228	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24228
24229	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24229
24230	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24230
24231	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24231
24232	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24232
24233	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24233
24237	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24237
24238	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24238
24239	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24239
24240	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24240
24241	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24241
24242	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24242
24243	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24243
24247	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	81.20	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24247
24248	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24248
24249	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24249
24250	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24250
24251	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24251
24252	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*O2 Percent (scf/100-scf)*	3.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24252
24253	81-SoCal_AeroSpaceDefense (HighAmbitious_ECGeneral)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24253

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24397	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24397
24398	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24398
24399	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24399
24400	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24400
24401	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24401
24402	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24402
24403	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24403
24407	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24407
24408	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24408
24409	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24409
24410	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24410
24411	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24411
24412	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24412
24413	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24413
24417	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24417
24418	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24418
24419	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24419
24420	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24420
24421	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24421
24422	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24422
24423	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24423
24427	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24427
24428	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24428
24429	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24429
24430	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24430
24431	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24431
24432	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24432
24433	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24433
24437	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24437
24438	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24438
24439	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24439
24440	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24440
24441	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24441
24442	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24442
24443	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24443
24447	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24447

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24448	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24448
24449	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24449
24450	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24450
24451	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24451
24452	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24452
24453	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24453
24457	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24457
24458	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24458
24459	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24459
24460	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24460
24461	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24461
24462	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24462
24463	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24463
24467	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24467
24468	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24468
24469	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24469
24470	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24470
24471	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24471
24472	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24472
24473	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24473
24477	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24477
24478	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24478
24479	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24479
24480	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24480
24481	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24481
24482	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24482
24483	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24483
24487	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24487
24488	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24488
24489	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24489
24490	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24490
24491	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24491
24492	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24492
24493	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24493
24497	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24497
24498	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24498

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24499	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24499
24500	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24500
24501	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24501
24502	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24502
24503	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24503
24507	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24507
24508	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24508
24509	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24509
24510	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24510
24511	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24511
24512	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24512
24513	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24513
24517	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24517
24518	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24518
24519	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24519
24520	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24520
24521	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24521
24522	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24522
24523	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24523
24527	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24527
24528	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24528
24529	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24529
24530	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24530
24531	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24531
24532	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24532
24533	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24533
24537	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24537
24538	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24538
24539	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24539
24540	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24540
24541	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24541
24542	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24542
24543	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24543
24547	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	0.24	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24547
24548	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24548
24549	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24549

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24550	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	16.33	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24550
24551	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24551
24552	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*O2 Percent (scf/100-scf)*	19.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24552
24553	82-SoCal_AeroSpaceDefense (HighAmbitious_ECOvens)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24553
24697	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24697
24698	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24698
24699	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24699
24700	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24700
24701	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24701
24702	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24702
24703	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24703
24707	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24707
24708	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24708
24709	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24709
24710	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24710
24711	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24711
24712	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24712
24713	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24713
24717	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24717
24718	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24718
24719	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24719
24720	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24720
24721	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24721
24722	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24722
24723	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24723
24727	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24727
24728	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24728
24729	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24729
24730	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24730
24731	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24731
24732	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24732
24733	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24733
24737	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24737
24738	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24738
24739	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24739
24740	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24740

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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24741	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24741
24742	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24742
24743	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24743
24747	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24747
24748	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24748
24749	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24749
24750	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24750
24751	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24751
24752	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24752
24753	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24753
24757	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24757
24758	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24758
24759	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24759
24760	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24760
24761	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24761
24762	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24762
24763	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24763
24767	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24767
24768	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24768
24769	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24769
24770	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24770
24771	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24771
24772	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24772
24773	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24773
24777	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24777
24778	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24778
24779	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24779
24780	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24780
24781	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24781
24782	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24782
24783	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24783
24787	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24787
24788	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24788
24789	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24789
24790	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24790
24791	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24791

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2	**Tab Contents**				
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5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24792	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24792
24793	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24793
24797	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24797
24798	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24798
24799	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24799
24800	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24800
24801	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24801
24802	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24802
24803	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24803
24807	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24807
24808	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24808
24809	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24809
24810	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24810
24811	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24811
24812	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24812
24813	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24813
24817	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24817
24818	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24818
24819	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24819
24820	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24820
24821	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24821
24822	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24822
24823	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24823
24827	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24827
24828	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24828
24829	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24829
24830	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24830
24831	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24831
24832	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24832
24833	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24833
24837	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24837
24838	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24838
24839	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24839
24840	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24840
24841	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24841
24842	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24842

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
24843	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24843
24847	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	12.78	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24847
24848	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24848
24849	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24849
24850	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	25.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24850
24851	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24851
24852	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24852
24853	83-SoCal_AeroSpaceDefense (HighAmbitious_ICEngines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.04	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24853
24997	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24997
24998	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	57212.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24998
24999	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	80.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV24999
25000	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25000
25001	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*BSL NG Consumption (MMBtu/yr)*	964650.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25001
25002	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25002
25003	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2030_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25003
25007	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25007
25008	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	69987.77	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25008
25009	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	76.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25009
25010	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25010
25011	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*BSL NG Consumption (MMBtu/yr)*	987880.49	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25011
25012	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25012
25013	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2031_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25013
25017	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25017
25018	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	82868.45	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25018
25019	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	72.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25019
25020	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25020
25021	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1013255.09	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25021
25022	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25022
25023	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2032_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25023
25027	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25027
25028	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	94884.37	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25028
25029	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	68.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25029
25030	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25030
25031	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1029648.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25031
25032	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25032
25033	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2033_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25033

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2	**Tab Contents**				
3	This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas", "1. Data_Prep_Industrial" tab. The input data in this tab was processed through the function in "3.1 EQ Industrial NOx Calc" to produce the results in "4. Calculations".				
4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
25037	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25037
25038	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	107026.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25038
25039	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	64.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25039
25040	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25040
25041	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1049500.38	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25041
25042	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25042
25043	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2034_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25043
25047	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25047
25048	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	118718.21	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25048
25049	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	60.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25049
25050	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25050
25051	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1066740.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25051
25052	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25052
25053	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2035_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25053
25057	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25057
25058	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	129127.44	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25058
25059	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	56.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25059
25060	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25060
25061	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1075027.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25061
25062	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25062
25063	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2036_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25063
25067	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25067
25068	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	139537.72	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25068
25069	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	52.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25069
25070	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25070
25071	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1086078.05	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25071
25072	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25072
25073	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2037_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25073
25077	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25077
25078	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	149069.46	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25078
25079	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	48.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25079
25080	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25080
25081	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1092849.67	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25081
25082	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25082
25083	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2038_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25083
25087	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25087

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
25088	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	159219.07	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25088
25089	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	44.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25089
25090	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25090
25091	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1106330.85	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25091
25092	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25092
25093	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2039_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25093
25097	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25097
25098	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	173928.27	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25098
25099	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	40.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25099
25100	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25100
25101	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1121321.06	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25101
25102	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25102
25103	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2040_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25103
25107	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25107
25108	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	188206.73	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25108
25109	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	36.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25109
25110	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25110
25111	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1135580.16	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25111
25112	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25112
25113	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2041_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25113
25117	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25117
25118	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	202204.50	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25118
25119	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	32.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25119
25120	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25120
25121	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1150039.23	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25121
25122	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25122
25123	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2042_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25123
25127	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25127
25128	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	215057.11	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25128
25129	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	28.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25129
25130	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25130
25131	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1159953.17	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25131
25132	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25132
25133	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2043_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25133
25137	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25137
25138	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	228014.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25138

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4	In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.				
5					
6	**Equipment ID**	***Fuel Type***	***Parameter***	**Value**	**Reference**
25139	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	24.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25139
25140	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25140
25141	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1172340.18	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25141
25142	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25142
25143	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2044_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25143
25147	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*Equip. Throughput Fraction (MMBtu/100-MMBtu)*	5.79	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25147
25148	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ H2 Demand (MMBtu/yr)*	241251.55	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25148
25149	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*PRJ % Overall H2 as Blend (scf/100-scf)*	20.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25149
25150	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*Blend % H2 (scf/100-scf)*	56.83	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25150
25151	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*BSL NG Consumption (MMBtu/yr)*	1187670.81	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25151
25152	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*O2 Percent (scf/100-scf)*	15.00	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25152
25153	84-SoCal_AeroSpaceDefense (HighAmbitious_ICTurbines)	2045_H2-NG	*NG NOx EF (lb/MMBtu)*	0.01	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV25153

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

10/11/2024

Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption (MMBtu/yr) x Equip. Throughput Fraction (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate) (MMBtu/yr) - PRJ Overall H2 Heat Rate) (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

10/11/2024

BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ % Overall H2 as Blend (scf/100-scf) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Industrial NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	21.18	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1347

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

10/11/2024

Parameter	Value	Units	Resource
PRJ H2 Demand	0.00	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1348
PRJ % Overall H2 as Blend	60.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1349
Blend % H2	16.33	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1350
Blend % NG	83.67	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	2.45	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	97.55	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	6.13	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	93.87	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	0.00	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions:

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

10/11/2024

Parameter	Value	Units	Resource
			"Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG}) Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	23,389.62	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

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Parameter	Value	Units	Resource
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	24,019,698,264.71	scf/yr	Calculated Below
PRJ H2 Vol	0.00	scf/yr	Calculated Below
PRJ NG Vol	24,019,698,264.71	scf/yr	Calculated Below
BSL NG Consumption	115,656,653.83	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1351
BSL Overall Heat Rate	24,500,092.23	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	24,500,092.23	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	0.00	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	0.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2

Parameter	Value	Units	Resource
			as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	0.00	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	24,500,092.23	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	0.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	24,500,092.23	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.050	scf/MMBtu	Calculated Below

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

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Parameter	Value	Units	Resource
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	8,542.44	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	3.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1352
O2 Correction	1.17	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.01	lb/MMBtu	Calculated Below
NG NOx EF	0.01	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV1353
Blend NOx EF	0.01	lb/MMBtu	Calculated Below
NOx NG EF Conc	11.93	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.02	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	177.54	ton/yr	Calculated Below
PRJ Blend-NG NOx	0.00	ton/yr	Calculated Below
PRJ Overall NG NOx	177.54	ton/yr	Calculated Below
PRJ 100%-H2 NOx	0.00	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.00	ton/yr	Calculated Below
PRJ Overall H2 NOx	0.00	ton/yr	Calculated Below
BSL Overall NOx	177.54	ton/yr	Calculated Below
PRJ Overall NOx	177.54	ton/yr	Calculated Below

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

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Parameter	Value	Units	Resource
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 115,656,653.83 (MMBtu/yr) x 21.18 (MMBtu/100-MMBtu) = 24,500,092.23 (MMBtu/yr)

PRJ Overall Heat Rate (MMBtu/yr) = 115,656,653.83 (MMBtu/yr) x 21.18 (MMBtu/100-MMBtu) = 24,500,092.23 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 0.0 (MMBtu/yr) x 21.18 (MMBtu/100-MMBtu) = 0.0 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 24,500,092.23 (MMBtu/yr) - 0.0 (MMBtu/yr) = 24,500,092.23 (MMBtu/yr)

BSL NG Vol (scf/yr) = 24,500,092.23 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 24,019,698,264.71 (scf/yr)

PRJ NG Vol (scf/yr) = 24,500,092.23 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 24,019,698,264.71 (scf/yr)

PRJ H2 Vol (scf/yr) = 0.0 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 0.0 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.05 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 6.13 (Btu/100-Btu) x 5,975.05 (scf/MMBtu) + 93.87 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 8,542.44 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 2.45 (lb/100-lb) x 60,920.0 (Btu/lb) + 97.55 (lb/100-lb) x 22,446.0 (Btu/lb) = 23,389.62 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0145 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 1.17 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 11.93 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0145 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0003 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 11.93 (ppm) x 1.02 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 8,542.44 (scf/MMBtu) x 1.17 (scf/scf) = 0.0144 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.0144 (lb/MMBtu) x 23,389.62 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0003 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 11.93 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.05 (scf/MMBtu) x 1.17 (scf/scf) = 0.0136 (lb/MMBtu)

Sample Emission Calculation

5-SoCal_Refineries (MidModerate_ECGeneral) 2035_H2-NG

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H2 NOx EF (kg NOx/kg H2) = 0.0136 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0008 (kg NOx/kg H2)

BSL NOx (ton NOx/yr) = 24,500,092.23 (MMBtu/yr) x 0.0145 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 177.54 (ton/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 24,500,092.23 (MMBtu/yr) x 0.0145 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 177.54 (ton/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0144 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton/yr)

PRJ Blend-H2 NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0144 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0136 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton/yr)

PRJ Overall NG NOx (ton NOx/yr) = 177.54 (ton/yr) + 0.0 (ton/yr) = 177.54 (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.0 (ton/yr) + 0.0 (ton/yr) = 0.0 (ton/yr)

PRJ Overall NOx (ton NOx/yr) = 177.54 (ton/yr) + 0.0 (ton/yr) = 177.54 (ton/yr)

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption (MMBtu/yr) x Equip. Throughput Fraction (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate) (MMBtu/yr) - PRJ Overall H2 Heat Rate) (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ % Overall H2 as Blend (scf/100-scf) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Industrial NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	0.06	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5247

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
PRJ H2 Demand	5,042,861.11	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5248
PRJ % Overall H2 as Blend	60.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5249
Blend % H2	16.33	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5250
Blend % NG	83.67	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	2.45	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	97.55	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	6.13	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	93.87	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	26,628.04	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions:

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
			"Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG}) Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	23,389.62	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	12,204,656.86	scf/yr	Calculated Below
PRJ H2 Vol	8,493,958.94	scf/yr	Calculated Below
PRJ NG Vol	9,365,009.80	scf/yr	Calculated Below
BSL NG Consumption	21,673,963.65	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5251
BSL Overall Heat Rate	12,448.75	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	12,448.75	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	2,273.01	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	623.43	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
			as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	2,896.44	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	0.00	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	9,552.31	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	9,552.31	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.050	scf/MMBtu	Calculated Below

Sample Emission Calculation

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Parameter	Value	Units	Resource
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	8,542.44	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	19.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5252
O2 Correction	11.00	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.05	lb/MMBtu	Calculated Below
NG NOx EF	0.05	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV5253
Blend NOx EF	0.05	lb/MMBtu	Calculated Below
NOx NG EF Conc	4.30	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.02	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	0.00	ton/yr	Calculated Below
PRJ Blend-NG NOx	0.23	ton/yr	Calculated Below
PRJ Overall NG NOx	0.23	ton/yr	Calculated Below
PRJ 100%-H2 NOx	0.05	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.02	ton/yr	Calculated Below
PRJ Overall H2 NOx	0.07	ton/yr	Calculated Below
BSL Overall NOx	0.31	ton/yr	Calculated Below
PRJ Overall NOx	0.30	ton/yr	Calculated Below

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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Parameter	Value	Units	Resource
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 21,673,963.65 (MMBtu/yr) x 0.06 (MMBtu/100-MMBtu) = 12,448.75 (MMBtu/yr)

PRJ Overall Heat Rate (MMBtu/yr) = 21,673,963.65 (MMBtu/yr) x 0.06 (MMBtu/100-MMBtu) = 12,448.75 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 5,042,861.1130068 (MMBtu/yr) x 0.06 (MMBtu/100-MMBtu) = 2,896.44 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 12,448.75 (MMBtu/yr) - 2,896.44 (MMBtu/yr) = 9,552.31 (MMBtu/yr)

BSL NG Vol (scf/yr) = 12,448.75 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 12,204,656.86 (scf/yr)

PRJ NG Vol (scf/yr) = 9,552.31 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 9,365,009.8 (scf/yr)

PRJ H2 Vol (scf/yr) = 2,896.44 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 8,493,958.94 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.05 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 6.13 (Btu/100-Btu) x 5,975.05 (scf/MMBtu) + 93.87 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 8,542.44 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 2.45 (lb/100-lb) x 60,920.0 (Btu/lb) + 97.55 (lb/100-lb) x 22,446.0 (Btu/lb) = 23,389.62 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0492 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 11.0 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 4.3 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0492 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0011 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 4.3 (ppm) x 1.02 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 8,542.44 (scf/MMBtu) x 11.0 (scf/scf) = 0.049 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.049 (lb/MMBtu) x 23,389.62 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0011 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 4.3 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.05 (scf/MMBtu) x 11.0 (scf/scf) = 0.0462 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0462 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0028 (kg NOx/kg H2)

Sample Emission Calculation

18-SoCal_FoodBeverage (MidModerate_ECOvens) 2035_H2-NG

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BSL NOx (ton NOx/yr) = 12,448.75 (MMBtu/yr) x 0.0492 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.31 (ton/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 0.0 (MMBtu/yr) x 0.0492 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.0 (ton/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 9,552.31 (MMBtu/yr) x 0.049 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.23 (ton/yr)

PRJ Blend-H2 NOx (ton NOx/yr) = 623.4260909 (MMBtu/yr) x 0.049 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.02 (ton/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 2,273.0139091 (MMBtu/yr) x 0.0462 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.05 (ton/yr)

PRJ Overall NG NOx (ton NOx/yr) = 0.0 (ton/yr) + 0.23 (ton/yr) = 0.23 (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.02 (ton/yr) + 0.05 (ton/yr) = 0.07 (ton/yr)

PRJ Overall NOx (ton NOx/yr) = 0.23 (ton/yr) + 0.07 (ton/yr) = 0.3 (ton/yr)

Sample Emission Calculation

32-SoCal_Metals (MidModerate_ICTurbines) 2035_H2-NG

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Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption (MMBtu/yr) x Equip. Throughput Fraction (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate) (MMBtu/yr) - PRJ Overall H2 Heat Rate) (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

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BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ % Overall H2 as Blend (scf/100-scf) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Industrial NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	5.79	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9447

Sample Emission Calculation

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Parameter	Value	Units	Resource
PRJ H2 Demand	1,801,052.01	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9448
PRJ % Overall H2 as Blend	60.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9449
Blend % H2	56.83	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9450
Blend % NG	43.17	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	14.50	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	85.50	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	30.56	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	69.44	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	142,077.86	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions:

Sample Emission Calculation

32-SoCal_Metals (MidModerate_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
			"Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG}) Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	28,024.13	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	

Sample Emission Calculation

32-SoCal_Metals (MidModerate_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	471,396,647.06	scf/yr	Calculated Below
PRJ H2 Vol	305,653,665.69	scf/yr	Calculated Below
PRJ NG Vol	369,212,431.37	scf/yr	Calculated Below
BSL NG Consumption	8,308,620.78	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9451
BSL Overall Heat Rate	480,824.58	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	480,824.58	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	41,691.16	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	62,536.74	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2

Sample Emission Calculation

32-SoCal_Metals (MidModerate_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
			as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	104,227.90	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	234,518.82	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	142,077.86	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	376,596.68	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.050	scf/MMBtu	Calculated Below

Sample Emission Calculation

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Parameter	Value	Units	Resource
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	7,874.11	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	15.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9452
O2 Correction	3.54	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.01	lb/MMBtu	Calculated Below
NG NOx EF	0.01	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9453
Blend NOx EF	0.01	lb/MMBtu	Calculated Below
NOx NG EF Conc	2.50	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.09	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	1.08	ton/yr	Calculated Below
PRJ Blend-NG NOx	0.64	ton/yr	Calculated Below
PRJ Overall NG NOx	1.72	ton/yr	Calculated Below
PRJ 100%-H2 NOx	0.18	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.28	ton/yr	Calculated Below
PRJ Overall H2 NOx	0.46	ton/yr	Calculated Below
BSL Overall NOx	2.21	ton/yr	Calculated Below
PRJ Overall NOx	2.18	ton/yr	Calculated Below

Sample Emission Calculation

32-SoCal_Metals (MidModerate_ICTurbines) 2035_H2-NG

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Parameter	Value	Units	Resource
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 8,308,620.78 (MMBtu/yr) x 5.79 (MMBtu/100-MMBtu) = 480,824.58 (MMBtu/yr)

PRJ Overall Heat Rate (MMBtu/yr) = 8,308,620.78 (MMBtu/yr) x 5.79 (MMBtu/100-MMBtu) = 480,824.58 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 1,801,052.0103696 (MMBtu/yr) x 5.79 (MMBtu/100-MMBtu) = 104,227.9 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 480,824.58 (MMBtu/yr) - 104,227.9 (MMBtu/yr) = 376,596.68 (MMBtu/yr)

BSL NG Vol (scf/yr) = 480,824.58 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 471,396,647.06 (scf/yr)

PRJ NG Vol (scf/yr) = 376,596.68 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 369,212,431.37 (scf/yr)

PRJ H2 Vol (scf/yr) = 104,227.9 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 305,653,665.69 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.05 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 30.56 (Btu/100-Btu) x 5,975.05 (scf/MMBtu) + 69.44 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 7,874.11 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 14.5 (lb/100-lb) x 60,920.0 (Btu/lb) + 85.5 (lb/100-lb) x 22,446.0 (Btu/lb) = 28,024.13 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0092 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 3.54 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 2.5 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0092 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0002 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 2.5 (ppm) x 1.09 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 7,874.11 (scf/MMBtu) x 3.54 (scf/scf) = 0.009 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.009 (lb/MMBtu) x 28,024.13 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0003 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 2.5 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.05 (scf/MMBtu) x 3.54 (scf/scf) = 0.0087 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0087 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0005 (kg NOx/kg H2)

Sample Emission Calculation

32-SoCal_Metals (MidModerate_ICTurbines) 2035_H2-NG

10/11/2024

BSL NOx (ton NOx/yr) = 480,824.58 (MMBtu/yr) x 0.0092 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 2.21 (ton/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 234,518.817123 (MMBtu/yr) x 0.0092 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 1.08 (ton/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 142,077.862877 (MMBtu/yr) x 0.009 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.64 (ton/yr)

PRJ Blend-H2 NOx (ton NOx/yr) = 62,536.74 (MMBtu/yr) x 0.009 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.28 (ton/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 41,691.16 (MMBtu/yr) x 0.0087 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.18 (ton/yr)

PRJ Overall NG NOx (ton NOx/yr) = 1.08 (ton/yr) + 0.64 (ton/yr) = 1.72 (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.28 (ton/yr) + 0.18 (ton/yr) = 0.46 (ton/yr)

PRJ Overall NOx (ton NOx/yr) = 1.72 (ton/yr) + 0.46 (ton/yr) = 2.18 (ton/yr)

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

10/11/2024

Emissions are calculated using the following equation(s):

BSL Overall Heat Rate (MMBtu/yr) = BSL NG Consumption (MMBtu/yr) x Equip. Throughput Fraction (MMBtu/100-MMBtu)

PRJ Overall Heat Rate (MMBtu/yr) = BSL NG Consumption) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall H2 Heat Rate (MMBtu/yr) = PRJ H2 Demand) (MMBtu/yr) x Equip. Throughput Fraction) (MMBtu/100-MMBtu)

PRJ Overall NG Heat Rate (MMBtu/yr) = PRJ Overall Heat Rate) (MMBtu/yr) - PRJ Overall H2 Heat Rate) (MMBtu/yr)

BSL NG Vol (scf/yr) = BSL Overall Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ NG Vol (scf/yr) = PRJ Overall NG Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf NG (Btu/scf)

PRJ H2 Vol (scf/yr) = PRJ Overall H2 Heat Rate (MMBtu/yr) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-scf H2 (Btu/scf)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

Fd Blend (scf/MMBtu) = Blend % H2 (Heat) (Btu/100-Btu) x Fd (H2 @ 68 F) (scf/MMBtu) + Blend % NG (Heat) (Btu/100-Btu) x Fd NG (scf/MMBtu)

HHV-lb Blend (Btu/lb) = Blend % H2 (Mass) (lb/100-lb) x HHV-lb H2 (Btu/lb) + Blend % NG (Mass) (lb/100-lb) x HHV-lb NG (Btu/lb)

NOx NG EF Conc (ppm) = NG NOx EF (lb/MMBtu) ÷ MW (NO2) (lb/pmole) x Molar Volume @ 68 F (scf/pmole) ÷ O2 Correction (scf/scf) ÷ Fd NG (scf/MMBtu) x Conv (Conc-ppm) (scf-ppm/scf)

NG NOx EF (kg NOx/kg NG) = NG NOx EF (lb/MMBtu) x HHV-lb NG (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Blend NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction Blend-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd Blend (scf/MMBtu) x O2 Correction (scf/scf)

Blend NOx EF (kg NOx/kg Blend) = Blend NOx EF (lb/MMBtu) x HHV-lb Blend (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

H2 NOx EF (lb NOx/MMBtu) = NOx NG EF Conc (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf)

H2 NOx EF (kg NOx/kg H2) = H2 NOx EF (lb/MMBtu) x HHV-lb H2 (Btu/lb) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) x Conv (lb-kg) (lb/kg) ÷ Conv (lb-kg) (lb/kg)

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

10/11/2024

BSL NOx (ton NOx/yr) = BSL Overall Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-NG NOx (ton NOx/yr) = PRJ 100%-NG Heat Rate (MMBtu/yr) x NG NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-NG NOx (ton NOx/yr) = PRJ Blend-NG Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Blend-H2 NOx (ton NOx/yr) = PRJ Blend-H2 Heat Rate (MMBtu/yr) x Blend NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ 100%-H2 NOx (ton NOx/yr) = PRJ 100%-H2 Heat Rate (MMBtu/yr) x H2 NOx EF (lb/MMBtu) ÷ Conv (lb-ton) (lb/ton)

PRJ Overall NG NOx (ton NOx/yr) = PRJ 100%-NG NOx (ton/yr) + PRJ Blend-NG NOx (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = PRJ Blend-H2 NOx (ton/yr) + PRJ 100%-H2 NOx (ton/yr)

PRJ Overall NOx (ton NOx/yr) = PRJ Overall NG NOx (ton/yr) + PRJ Overall H2 NOx (ton/yr)

Where:

Equip. Throughput Fraction (MMBtu/100-MMBtu) = Percentage of sector-level fuel consumed by equipment category (turbine, recip engine, gen EC, heater)

PRJ H2 Demand (MMBtu/yr) = Annual hydrogen demand (sector-wide)

PRJ % Overall H2 as Blend (scf/100-scf) = Percent of annual hydrogen demand combusted as a blended fuel (sector-wide)

Blend % H2 (scf/100-scf) = Proportion of hydrogen to natural gas in blended fuel (sector-wide)

BSL NG Consumption (MMBtu/yr) = Baseline fuel consumption, natural gas (sector-wide)

O2 Percent (scf/100-scf) = Combustion oxygen percent (for equipment category)

NG NOx EF (lb/MMBtu = NOx emission factor for natural gas (for equipment category)

Using the following parameter values:

Table 1. Industrial NOx Calc Calculation Inputs

Parameter	Value	Units	Resource
Equip. Throughput Fraction	5.79	MMBtu/100-MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9447

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

10/11/2024

Parameter	Value	Units	Resource
PRJ H2 Demand	1,801,052.01	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9448
PRJ % Overall H2 as Blend	60.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9449
Blend % H2	56.83	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9450
Blend % NG	43.17	scf/100-scf	NG makeup based on % H2 selection
Blend % H2 (Mass)	14.50	lb/100-lb	Percentage of H2 in blend by mass. (%-vol H2 * density-H2) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % NG (Mass)	85.50	lb/100-lb	Percentage of NG in blend by mass. (%-vol NG * density-NG) / (%-vol NG * density-NG + %-vol H2 * density-H2)
Blend % H2 (Heat)	30.56	Btu/100-Btu	Percentage of H2 in blend by heat content. (%-vol H2 * HHV-scf-H2) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blend % NG (Heat)	69.44	Btu/100-Btu	Percentage of NG in blend by heat content. (%-vol NG * HHV-scf-NG) / (%-vol NG * HHV-scf-NG + %-vol H2 * HHV-scf-H2)
Blending Check Factor	142,077.86	MMBtu/yr	Check factor for blending. This is the PRJ MMBtu of blended natural gas, given default (user input) blending assumptions. If this value exceeds overall PRJ natural gas demand, secondary blending assumptions must be made to satisfy energy balance. Based on the following assumptions:

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
			"Blend % H2" = Volume_{Blended-H2} /(Volume_{Blended-H2} + Volume_{Blended-NG}) Volume_{Blended-H2} = MMBtu_{Blended-H2} * 10^6 (Btu/MMBtu) /HHV_{Blended-H2} (Btu/scf) Volume_{Blended-NG} = MMBtu_{Blended-NG} * 10^6 (Btu/MMBtu) /HHV_{Blended-NG} (Btu/scf) The above equations can be used to solve for MMBtu_{Blended-NG} in terms of MMBtu_{Blended-H2}. This value can be compared to overall MMBtu of PRJ natural gas.
HHV-scf H2	341.00	Btu/scf	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-scf NG	1,020.00	Btu/scf	https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb NG	22,446.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
HHV-lb Blend	28,024.13	Btu/lb	Calculated Below
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (kg-MT)	1,000.00	kg/MT	

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
Conv (g-kg)	1,000.00	g/kg	
Conv (Conc-ppm)	1,000,000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (lb-ton)	2,000.00	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
MW (H2)	2.02	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Hydrogen
MW (NO2)	46.00	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
MW (NG)	19.00	lb/pmole	https://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html
Molar Volume @ 68 F	385.22	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
BSL NG Vol	471,396,647.06	scf/yr	Calculated Below
PRJ H2 Vol	305,653,665.69	scf/yr	Calculated Below
PRJ NG Vol	369,212,431.37	scf/yr	Calculated Below
BSL NG Consumption	8,308,620.78	MMBtu/yr	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9451
BSL Overall Heat Rate	480,824.58	MMBtu/yr	Calculated Below
PRJ Overall Heat Rate	480,824.58	MMBtu/yr	Calculated Below
PRJ 100%-H2 Heat Rate	41,691.16	MMBtu/yr	Calculated in cell
PRJ Blend-H2 Heat Rate	62,536.74	MMBtu/yr	Conditional formula based on "Blending Check Factor". Either based on default "PRJ % Overall H2

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
			as Blend" or, where Blending Check Factor exceeds PRJ Overall NG, the amount of H2 required to blend with the entirety of Overall PRJ NG. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall H2 Heat Rate	104,227.90	MMBtu/yr	Calculated Below
PRJ 100%-NG Heat Rate	234,518.82	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to zero. In other instances, it is the difference between overall natural gas volume and blended natural gas volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Blend-NG Heat Rate	142,077.86	MMBtu/yr	Conditional formula based on "Blending Check Factor". Where default blending assumptions result in blended natural gas volume that exceeds overall natural gas volume, this value is set to the overall natural gas demand. In other instances, it is the volume of natural gas required to blend with the blended hydrogen volume. This formula is conditional to satisfy energy balance requirements where default blending assumptions are inadequate.
PRJ Overall NG Heat Rate	376,596.68	MMBtu/yr	Calculated Below
Fd (H2 @ 68 F)	5,975.050	scf/MMBtu	Calculated Below

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

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Parameter	Value	Units	Resource
Fd NG	8,710.00	scf/MMBtu	https://www.epa.gov/sites/default/files/2017-08/documents/method_19.pdf
Fd Blend	7,874.11	scf/MMBtu	Calculated Below
Specific Weight H2	364.00	scf/lb	Jahnke, 1993. Appendix A.
O2 Percent	15.00	scf/100-scf	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9452
O2 Correction	3.54	scf/scf	Equation: 20.9 /(20.9 - O2 Percent)
H2 NOx EF	0.01	lb/MMBtu	Calculated Below
NG NOx EF	0.01	lb/MMBtu	ALP1_NOx_IndustPow_3_DataPrep_SoCalGas.xlsx, 1. Data_Prep_Industrial, Cell AV9453
Blend NOx EF	0.01	lb/MMBtu	Calculated Below
NOx NG EF Conc	2.50	ppm	Calculated Below
Correction 100%-H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Correction Blend-H2 Ratio	1.09	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
PRJ 100%-NG NOx	1.08	ton/yr	Calculated Below
PRJ Blend-NG NOx	0.64	ton/yr	Calculated Below
PRJ Overall NG NOx	1.72	ton/yr	Calculated Below
PRJ 100%-H2 NOx	0.18	ton/yr	Calculated Below
PRJ Blend-H2 NOx	0.28	ton/yr	Calculated Below
PRJ Overall H2 NOx	0.46	ton/yr	Calculated Below
BSL Overall NOx	2.21	ton/yr	Calculated Below
PRJ Overall NOx	2.18	ton/yr	Calculated Below

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

10/11/2024

Parameter	Value	Units	Resource
H2 Density (@ 68F)	0.002	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf
NG Density (@ 68F)	0.018	kg/scf	https://www1.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/fcm01r0.pdf

BSL Overall Heat Rate (MMBtu/yr) = 8,308,620.78 (MMBtu/yr) x 5.79 (MMBtu/100-MMBtu) = 480,824.58 (MMBtu/yr)

PRJ Overall Heat Rate (MMBtu/yr) = 8,308,620.78 (MMBtu/yr) x 5.79 (MMBtu/100-MMBtu) = 480,824.58 (MMBtu/yr)

PRJ Overall H2 Heat Rate (MMBtu/yr) = 1,801,052.0103696 (MMBtu/yr) x 5.79 (MMBtu/100-MMBtu) = 104,227.9 (MMBtu/yr)

PRJ Overall NG Heat Rate (MMBtu/yr) = 480,824.58 (MMBtu/yr) - 104,227.9 (MMBtu/yr) = 376,596.68 (MMBtu/yr)

BSL NG Vol (scf/yr) = 480,824.58 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 471,396,647.06 (scf/yr)

PRJ NG Vol (scf/yr) = 376,596.68 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 1,020.0 (Btu/scf) = 369,212,431.37 (scf/yr)

PRJ H2 Vol (scf/yr) = 104,227.9 (MMBtu/yr) x 1,000,000.0 (Btu/MMBtu) ÷ 341.0 (Btu/scf) = 305,653,665.69 (scf/yr)

Fd (H2 @ 68 F) (scf/MMBtu) = 364.0 (scf/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 60,920.0 (Btu/lb) = 5,975.05 (scf/MMBtu)

Fd Blend (scf/MMBtu) = 30.56 (Btu/100-Btu) x 5,975.05 (scf/MMBtu) + 69.44 (Btu/100-Btu) x 8,710.0 (scf/MMBtu) = 7,874.11 (scf/MMBtu)

HHV-lb Blend (Btu/lb) = 14.5 (lb/100-lb) x 60,920.0 (Btu/lb) + 85.5 (lb/100-lb) x 22,446.0 (Btu/lb) = 28,024.13 (Btu/lb)

NOx NG EF Conc (ppm) = 0.0092 (lb/MMBtu) ÷ 46.0 (lb/pmole) x 385.22 (scf/pmole) ÷ 3.54 (scf/scf) ÷ 8,710.0 (scf/MMBtu) x 1,000,000.0 (scf-ppm/scf) = 2.5 (ppm)

NG NOx EF (kg NOx/kg NG) = 0.0092 (lb/MMBtu) x 22,446.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0002 (kg NOx/kg NG)

Blend NOx EF (lb NOx/MMBtu) = 2.5 (ppm) x 1.09 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 7,874.11 (scf/MMBtu) x 3.54 (scf/scf) = 0.009 (lb/MMBtu)

Blend NOx EF (kg NOx/kg Blend) = 0.009 (lb/MMBtu) x 28,024.13 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0003 (kg NOx/kg Blend)

H2 NOx EF (lb NOx/MMBtu) = 2.5 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.05 (scf/MMBtu) x 3.54 (scf/scf) = 0.0087 (lb/MMBtu)

H2 NOx EF (kg NOx/kg H2) = 0.0087 (lb/MMBtu) x 60,920.0 (Btu/lb) ÷ 1,000,000.0 (Btu/MMBtu) x 2.205 (lb/kg) ÷ 2.205 (lb/kg) = 0.0005 (kg NOx/kg H2)

Sample Emission Calculation

43-SoCal_StoneGlassCement (MidModerate_ICEngines) 2035_H2-NG

10/11/2024

BSL NOx (ton NOx/yr) = 480,824.58 (MMBtu/yr) x 0.0092 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 2.21 (ton/yr)

PRJ 100%-NG NOx (ton NOx/yr) = 234,518.817123 (MMBtu/yr) x 0.0092 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 1.08 (ton/yr)

PRJ Blend-NG NOx (ton NOx/yr) = 142,077.862877 (MMBtu/yr) x 0.009 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.64 (ton/yr)

PRJ Blend-H2 NOx (ton NOx/yr) = 62,536.74 (MMBtu/yr) x 0.009 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.28 (ton/yr)

PRJ 100%-H2 NOx (ton NOx/yr) = 41,691.16 (MMBtu/yr) x 0.0087 (lb/MMBtu) ÷ 2,000.0 (lb/ton) = 0.18 (ton/yr)

PRJ Overall NG NOx (ton NOx/yr) = 1.08 (ton/yr) + 0.64 (ton/yr) = 1.72 (ton/yr)

PRJ Overall H2 NOx (ton NOx/yr) = 0.28 (ton/yr) + 0.18 (ton/yr) = 0.46 (ton/yr)

PRJ Overall NOx (ton NOx/yr) = 1.72 (ton/yr) + 0.46 (ton/yr) = 2.18 (ton/yr)

Appendix D.5:

Production

NOx Results, Calculations, and Data

Tab Contents

This tab compiles relevant information on potential thermal efficiency for the external combustion unit fueled by hydrogen and calculates an average value to use in the calculations.

Purchasing Energy-Efficient Large Commercial Boilers | Department of Energy

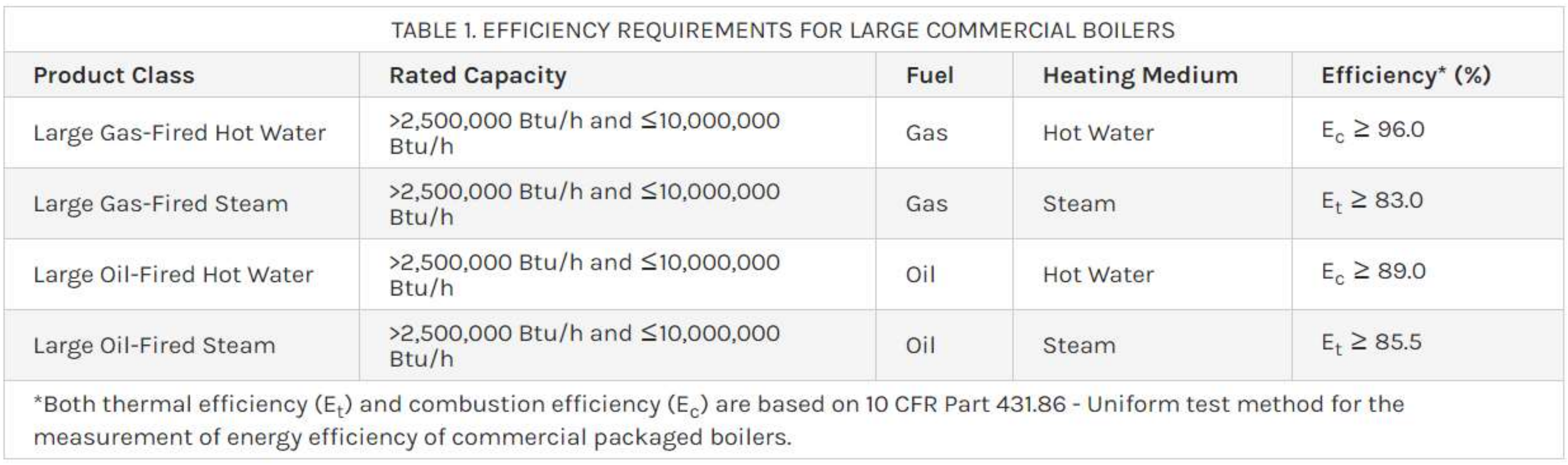


TABLE 1. EFFICIENCY REQUIREMENTS FOR LARGE COMMERCIAL BOILERS

Product Class	Rated Capacity	Fuel	Heating Medium	Efficiency* (%)
Large Gas-Fired Hot Water	>2,500,000 Btu/h and ≤10,000,000 Btu/h	Gas	Hot Water	$E_c \geq 96.0$
Large Gas-Fired Steam	>2,500,000 Btu/h and ≤10,000,000 Btu/h	Gas	Steam	$E_t \geq 83.0$
Large Oil-Fired Hot Water	>2,500,000 Btu/h and ≤10,000,000 Btu/h	Oil	Hot Water	$E_c \geq 89.0$
Large Oil-Fired Steam	>2,500,000 Btu/h and ≤10,000,000 Btu/h	Oil	Steam	$E_t \geq 85.5$

*Both thermal efficiency (E_t) and combustion efficiency (E_c) are based on 10 CFR Part 431.86 - Uniform test method for the measurement of energy efficiency of commercial packaged boilers.

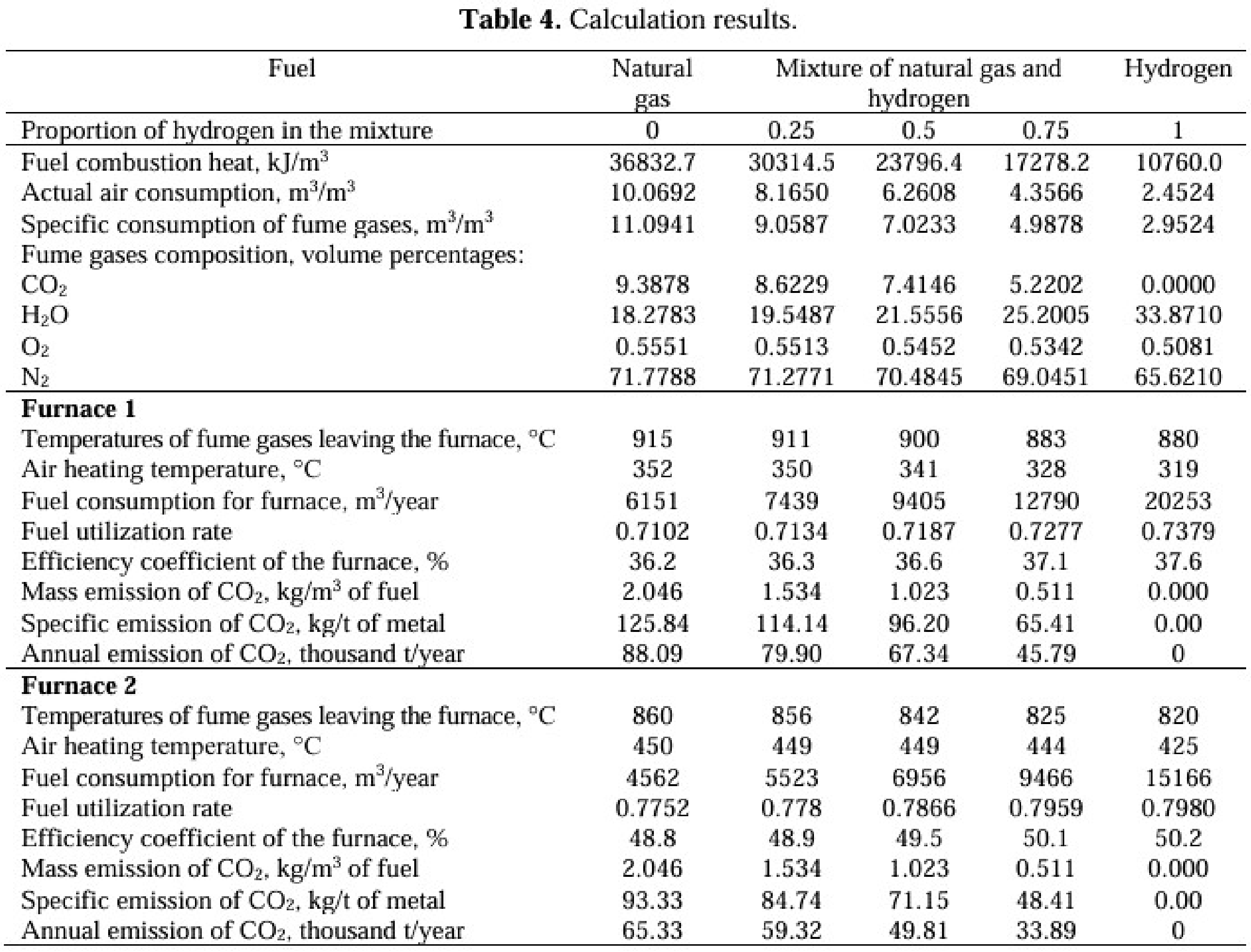
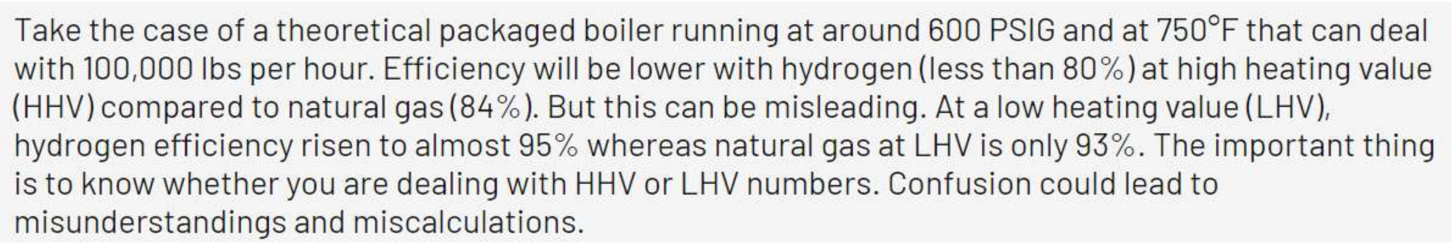


Table 4. Calculation results.

Fuel	Natural gas	Mixture of natural gas and hydrogen			Hydrogen
Proportion of hydrogen in the mixture	0	0.25	0.5	0.75	1
Fuel combustion heat, kJ/m^3	36832.7	30314.5	23796.4	17278.2	10760.0
Actual air consumption, m^3/m^3	10.0692	8.1650	6.2608	4.3566	2.4524
Specific consumption of fume gases, m^3/m^3	11.0941	9.0587	7.0233	4.9878	2.9524
Fume gases composition, volume percentages:					
CO_2	9.3878	8.6229	7.4146	5.2202	0.0000
H_2O	18.2783	19.5487	21.5556	25.2005	33.8710
O_2	0.5551	0.5513	0.5452	0.5342	0.5081
N_2	71.7788	71.2771	70.4845	69.0451	65.6210
Furnace 1					
Temperatures of fume gases leaving the furnace, °C	915	911	900	883	880
Air heating temperature, °C	352	350	341	328	319
Fuel consumption for furnace, m^3/year	6151	7439	9405	12790	20253
Fuel utilization rate	0.7102	0.7134	0.7187	0.7277	0.7379
Efficiency coefficient of the furnace, %	36.2	36.3	36.6	37.1	37.6
Mass emission of CO_2, kg/m^3 of fuel	2.046	1.534	1.023	0.511	0.000
Specific emission of CO_2, kg/t of metal	125.84	114.14	96.20	65.41	0.00
Annual emission of CO_2, thousand t/year	88.09	79.90	67.34	45.79	0
Furnace 2					
Temperatures of fume gases leaving the furnace, °C	860	856	842	825	820
Air heating temperature, °C	450	449	449	444	425
Fuel consumption for furnace, m^3/year	4562	5523	6956	9466	15166
Fuel utilization rate	0.7752	0.778	0.7866	0.7959	0.7980
Efficiency coefficient of the furnace, %	48.8	48.9	49.5	50.1	50.2
Mass emission of CO_2, kg/m^3 of fuel	2.046	1.534	1.023	0.511	0.000
Specific emission of CO_2, kg/t of metal	93.33	84.74	71.15	48.41	0.00
Annual emission of CO_2, thousand t/year	65.33	59.32	49.81	33.89	0

pdf (iop.org)
https://iopscience.iop.org/article/10.1088/1755-1315/1156/1/012035/pdf



Take the case of a theoretical packaged boiler running at around 600 PSIG and at 750°F that can deal with 100,000 lbs per hour. Efficiency will be lower with hydrogen (less than 80%) at high heating value (HHV) compared to natural gas (84%). But this can be misleading. At a low heating value (LHV), hydrogen efficiency risen to almost 95% whereas natural gas at LHV is only 93%. The important thing is to know whether you are dealing with HHV or LHV numbers. Confusion could lead to misunderstandings and miscalculations.

Boilers running on hydrogen: What you need to know (power-eng.com)
https://www.power-eng.com/hydrogen/boilers-running-on-hydrogen-what-you-need-to-know/

Unit	Efficiency	Source
Large Gas-	96%	US DOE
Large Gas-	83%	US DOE
Hydrogen	37.6	Gupalo et al.
Hydrogen-	50.2	Gupalo et al.
HHV Hydro	75%	Gerardo Lara
LHV Hydro	95%	Gerardo Lara
Average	73%	

*Article states "Efficiency will be lower with hydrogen (less than 80%) at high heating value". Used 75% in the absence of an exact value.

	A	B
1		
2		**Tab Contents**
3		Additional information on combustion ratio process used to develop calculations in Tab 3. This relates to the raw data in Tabs 6 and 7.
4		
5		**Development of the Combustion Ratio:**
6		To calculate NOx emissions from the external combustion unit within the steam reforming process, a heat rating per unit of hydrogen produced was required. To estimate an appropriate heat rating for the steam reforming process, air permits for existing steam methane reforming plants were reviewed. Only standalone SMR production facilities, external combustion units with a given heat rating rather than a “not-to-exceed", and facilities with no more than 2 external combustion units were reviewed.
7		The external combustion unit heat rating was compared against the plant hydrogen production capacity to develop a ratio of (MMBtu/hr) / (MMscf/day H2 production) ratio. For facilities where the plant H2 production capacity was not stated in the air permit, the facility H2 production capacity was gathered from the Pacific Northwest National Laboratory (PNNL) Hydrogen Analysis Resource Center North American Merchant Hydrogen Plant Production Capacity list (shown on tab "PNNL_SMR_Facilities"). Of the facilities considered, the highest (MMBtu/hr) / (MMscf/day H2 production) ratio was 3.71 MMBtu/hr per MMscf/day H2 production, and the average was 2.97 MMBtu/hr per MMscf/day H2 production.
8		Three calculation cases were established: the Maximum Ratio Case using the average plus standard deviation for the ratio value, the Average Ratio Case using the average ratio, and the Minimum Ratio Case using the average ratio minus the standard deviation for the ratio value.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2		**Tab Contents**										
3		This tab calculates the average MMBtu/hr to MMscf/day of H2 production ratio based on the data shown for four existing SMR facilities for which the necessary information was publicly available. "H2 Production Capacity" and "Furnace/Heater Rating" are from facility data.										
4												
5	**Co-Located w/Refinery or No. of Units**	**Company**	**City**	**State**	**H2 Production Capacity (MMscf/day)**	**Units**	**Furnace/Heater Rating (MMBtu/hr)**	**Units**	**Rating/Capacity (MMBtu/hr / MMscf/day)**	**Annual Production Capacity (MMScf/yr)**	**NOx (ton/yr)**	**Annual Production Capacity (MMBtu/yr)**
6	No	Praxair	Niagara Falls	NY	22.5	MMscf/day	46.01	MMBtu/hr	2.04	8,212.50	1.17	2,606,091.35
7		Shell (from calc workbook)	San Francisco	CA	4.23	MMscf/day	15.69	Mmbtu/hr	3.71	1,543.95	0.40	489,945.17
8		Air Products	Hamilton	OH	2.3	MMscf/day	6.2	MMBtu/hr	2.696	839.50	0.16	266,400.45
9	2 units	Hoeganaes Corporation	Gallatin	TN	0.75	MMscf/day	2.58	MMBtu/hr	3.44	273.75	0.07	86,869.71
10												
15								Average	2.97			
16								Std Dev	0.65			

Tab Contents

This tab demonstrates the calculation of the hydrogen specific NOx combustion emissions factors from the natural gas combustion emissions factors.

Emission limitation from South Coast Rule 1146 for boilers, steam generators, process heaters > or = 5 mmbtu/hr used in industrial, institutional, and commercial operations.
External combustion: Group II Units (all others) 5 ppm or 0.0062 lb/mmbtu compliance by 12/7/18

Factor	**Value**	**Units**	**Source**	
Fd CH4	8710.00	scf/mmbtu	Table 19-2 F-Factors for Various Fuels, EPA Meth	8629.54 calculated from Jahnke 1993
Fd H2	5975.05	scf/mmbtu	Jahnke 1993	
NOx NG EF - External Combustion	0.0062	lb/mmbtu	South Coast Rule 1146	
NOx NG EF - External Combustion	5.00	ppm	Calculated	
Correction 100% H2 Ratio	1.37	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf	
O2%	3.36	scf/100 scf	This is the O2% required to convert between 0.0062 lb/mmbtu to 5 ppm from South Coast Rule 1146	
Corrected Oxygen	1.17	scf/scf	Using 3% O2 for the N2O calculation	
O2 Correction %	1.19	scf/scf	Calculated: 20.9/(20.9 -O2%)	
Molar Volume	385.31	dscf/lb-mol	1 atm and 68 F	
Molar Weight NOx	46.01	g/mol	EPA	
Conv (Conc-ppm)	1000000.00	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm	
Conv (lb-ton)	2000.00	lb/ton		
NOx H2 EF - External Combustion	6.85	ppm	Calculated Using Correction Factor	
NOx H2 EF - External Combustion	0.005827	lb/mmbtu	Calculated	

$$Natural\ Gas\ NOx\ EF\ (ppm) \times Correction\ Factor\ to\ 100\%\ Hydrogen = Hydrogen\ NOx\ EF\ (ppm)$$

$$5.00\ (ppm) \times 1.37 = 6.85\ (ppm)$$

$$NOx\ ppm\ \div Conv\ (Conc - ppm) \div Molar\ Volume\ \left(\frac{dscf}{lb{-}mol}\right) * Fd\ H_2\ \left(\frac{scf}{MMbtu}\right) * \left(\frac{20.9}{20.9 - O_2\%}\right) = NOx\ Emission\ Factor\ \left(\frac{lb}{MMBtu}\right)$$

$$6.85\ (ppm)\ \div 1{,}000{,}000\ \left(\frac{scf{-}ppm}{scf}\right) \div 385.31\ \left(\frac{dscf}{lb{-}mol}\right) \times 5{,}975.05\ \left(\frac{scf}{MMbtu}\right) * \left(\frac{20.9}{20.9 - 3.36}\right) = 0.005827\ \left(\frac{lb}{MMBtu}\right)$$

Tab Contents

This tab calculates estimated NOx emissions from the combustion of hydrogen per the MMBtu of fuel required to produce the hydrogen demand projected by the Demand Study. The top of the tab includes conversion factors and emissions factors utilized within the calculations. The rows below outline the calculation process, and an equation is included at the top of each set of calculations. Please see the "Combustion Ratio" tab for a more detailed description of the ratios presented in rows 19 through 21.

Conversion Factors

Metric	Unit	Value	
HHV	Btu/ lb	60,920	Fuels - Higher and Lower Calorific Values (engineeringtoolbox.com)
Days per year	Days/yr	365	
Hours per year	hrs/yr	8,760	
tons/ 000 tons	tons/ 000 tons	1,000	
Conv (lb-short ton)	lbs/ ton	2,000	
Conv (Btu-MMBtu)	Btu/ MMBtu	1,000,000	
Conv (kg-MT)	kg/MT	1,000	
Conv (kg-short tons)	kg/short tons	907.18474	
H2 Weight	lb/scf	0.005209	https://keengas.com/gases/hydrogen/
Conv (lb-MT)	lb/MT	2,204.60	https://converterin.com/weight-mass/metric-tons-mt-to-pounds-lb.html
Conv (scf-MMscf)	scf/MMscf	1,000,000	
Thermal Efficiency	%	73%	See Tab 9. Thermal Efficiency
Ratio High	MMBtu/hr per	3.62	Permitted SMR facilities with 1 external combustion unit not co-located at a refinery
Ratio Mid	MMBtu/hr per	2.97	Permitted SMR facilities with 1 external combustion unit not co-located at a refinery
Ratio Low	MMBtu/hr per	2.32	Permitted SMR facilities with 1 external combustion unit not co-located at a refinery
NOx EF	lb/MMBtu	0.00583	Calculated on EF_Conv_Calc tab

Overall H2 Demand Summary (MMBtu/yr)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	15,040,062.3	20,039,788.9	26,900,972.6	35,707,219.6	46,561,611.0	59,735,032.8	73,422,447.5	87,074,152.2	100,699,231.8	114,375,347.3	128,276,215.2	143,683,410.2	160,384,717.4	178,390,112.3	197,651,320.2	218,158,246.0
Moderate Demand	32,394,468.3	41,292,519.5	52,582,755.2	66,333,697.1	82,842,546.7	102,244,522.4	122,832,229.3	144,191,023.0	165,952,404.4	188,331,988.9	211,611,166.4	237,174,477.0	264,300,900.7	293,070,542.4	323,447,348.2	355,381,942.7
Ambitious Demand	126,886,641.5	149,054,169.1	173,491,362.2	200,485,117.1	230,240,132.6	262,745,046.8	296,544,623.4	333,310,118.9	370,083,058.7	408,188,959.4	448,126,955.5	488,985,592.8	531,870,935.3	576,956,761.4	623,776,900.6	672,551,001.0

Overall H2 Demand Produced by SMR (MMBtu/yr)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	15,040,062.3	20,039,788.9	26,900,972.6	35,707,219.6	46,561,611.0	59,735,032.8	73,422,447.5	87,074,152.2	100,699,231.8	114,375,347.3	128,276,215.2	143,683,410.2	160,384,717.4	178,390,112.3	197,651,320.2	218,158,246.0
Moderate Demand	32,394,468.3	41,292,519.5	52,582,755.2	66,333,697.1	82,842,546.7	102,244,522.4	122,832,229.3	144,191,023.0	165,952,404.4	188,331,988.9	211,611,166.4	237,174,477.0	264,300,900.7	293,070,542.4	323,447,348.2	355,381,942.7
Ambitious Demand	126,886,641.5	149,054,169.1	173,491,362.2	200,485,117.1	230,240,132.6	262,745,046.8	296,544,623.4	333,310,118.9	370,083,058.7	408,188,959.4	448,126,955.5	488,985,592.8	531,870,935.3	576,956,761.4	623,776,900.6	672,551,001.0

H2 Demand (MT/yr) = H2 Demand (MMBtu/yr) * 1,000,000 Btu/MMBtu * (1/60920 Btu/lb) * (1/2204.6 lb/MT)

H2 Demand Produced by SMR Summary (Metric Tons/year)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	111,985.0	149,211.9	200,298.8	265,868.2	346,687.6	444,774.0	546,687.5	648,335.1	749,784.5	851,613.9	955,116.7	1,069,835.3	1,194,189.6	1,328,253.8	1,471,668.6	1,624,358.7
Moderate Demand	241,202.1	307,455.1	391,519.7	493,906.2	616,827.5	761,290.4	914,582.0	1,073,614.9	1,235,645.4	1,402,278.9	1,575,610.6	1,765,949.4	1,967,926.8	2,182,139.3	2,408,318.4	2,646,096.4
Ambitious Demand	944,770.2	1,109,824.8	1,291,778.8	1,492,768.4	1,714,317.8	1,956,342.3	2,208,006.5	2,481,754.4	2,755,557.7	3,039,285.9	3,336,655.5	3,640,880.0	3,960,194.9	4,295,894.1	4,644,506.7	5,007,668.0

H2 Demand (kg/yr) = H2 Demand (MT/yr) * 1000 (kg/MT)

H2 Demand Produced by SMR Summary (kg/year)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	111,985,021.1	149,211,894.2	200,298,770.9	265,868,163.9	346,687,593.8	444,774,017.4	546,687,519.7	648,335,133.6	749,784,502.7	851,613,873.6	955,116,702.7	1,069,835,314.1	1,194,189,602.6	1,328,253,843.5	1,471,668,593.2	1,624,358,687.3
Moderate Demand	241,202,141.0	307,455,088.1	391,519,719.4	493,906,231.7	616,827,522.9	761,290,399.0	914,581,971.7	1,073,614,888.0	1,235,645,384.9	1,402,278,886.4	1,575,610,561.4	1,765,949,393.5	1,967,926,823.6	2,182,139,297.2	2,408,318,363.6	2,646,096,384.5
Ambitious Demand	944,770,239.9	1,109,824,812.3	1,291,778,818.7	1,492,768,426.7	1,714,317,778.1	1,956,342,275.0	2,208,006,546.1	2,481,754,401.1	2,755,557,685.9	3,039,285,905.4	3,336,655,508.6	3,640,880,004.3	3,960,194,905.4	4,295,894,126.2	4,644,506,664.6	5,007,667,971.1

H2 Demand (MT/day) = H2 Demand (MT/yr) / 365 (days/yr)

H2 Demand Produced by SMR Summary (Metric Tons/day)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	306.8	408.8	548.8	728.4	949.8	1,218.6	1,497.8	1,776.3	2,054.2	2,333.2	2,616.8	2,931.1	3,271.8	3,639.1	4,032.0	4,450.3
Moderate Demand	660.8	842.3	1,072.7	1,353.2	1,689.9	2,085.7	2,505.7	2,941.4	3,385.3	3,841.9	4,316.7	4,838.2	5,391.6	5,978.5	6,598.1	7,249.6
Ambitious Demand	2,588.4	3,040.6	3,539.1	4,089.8	4,696.8	5,359.8	6,049.3	6,799.3	7,549.5	8,326.8	9,141.5	9,975.0	10,849.8	11,769.6	12,724.7	13,719.6

H2 Demand (MMscf/day) = H2 Demand (MT/day) * 2204.6 (lb/MT) (1/.005209 lb/scf) * (1/1,000,000 scf/MMscf)

H2 Demand Produced by SMR Summary (MMscf/day)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	129.9	173.0	232.3	308.3	402.0	515.7	633.9	751.8	869.4	987.5	1,107.5	1,240.5	1,384.7	1,540.2	1,706.4	1,883.5
Moderate Demand	279.7	356.5	454.0	572.7	715.2	882.7	1,060.5	1,244.9	1,432.8	1,626.0	1,827.0	2,047.7	2,281.9	2,530.3	2,792.5	3,068.2
Ambitious Demand	1,095.5	1,286.9	1,497.9	1,730.9	1,987.8	2,268.4	2,560.3	2,877.7	3,195.2	3,524.1	3,869.0	4,221.7	4,592.0	4,981.2	5,385.5	5,806.5

External Combustion (MMBtu/hr) = H2 Demand (MMscf/day) * 3.62 (MMBtu/hr)/(MMscf/day)

External Combustion Required (MMBtu/hr) - Maximum Ratio Case (avg + std dev)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	470.6	627.0	841.7	1,117.2	1,456.9	1,869.0	2,297.3	2,724.4	3,150.8	3,578.7	4,013.6	4,495.7	5,018.2	5,581.6	6,184.3	6,825.9
Moderate Demand	1,013.6	1,292.0	1,645.2	2,075.5	2,592.0	3,199.1	3,843.3	4,511.6	5,192.4	5,892.7	6,621.0	7,420.9	8,269.6	9,169.8	10,120.3	11,119.4
Ambitious Demand	3,970.1	4,663.7	5,428.3	6,272.9	7,203.9	8,221.0	9,278.5	10,428.9	11,579.4	12,771.7	14,021.3	15,299.7	16,641.6	18,052.2	19,517.2	21,043.3

External Combustion (MMBtu/yr) = External Combustion (MMBtu/hr) * 8760 (hrs/yr)

External Combustion Required (MMBtu/yr) - Maximum Ratio Case (avg + std dev)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	4,122,319.8	5,492,691.3	7,373,268.2	9,786,966.1	12,762,038.5	16,372,732.2	20,124,305.8	23,866,091.7	27,600,580.0	31,349,056.7	35,159,135.6	39,382,082.6	43,959,731.8	48,894,817.6	54,174,108.2	59,794,836.7
Moderate Demand	8,878,976.5	11,317,837.0	14,412,369.6	18,181,355.3	22,706,254.0	28,024,127.6	33,666,997.4	39,521,213.8	45,485,775.2	51,619,779.4	58,000,352.4	65,006,981.8	72,442,043.8	80,327,494.2	88,653,451.0	97,406,381.1
Ambitious Demand	34,778,268.3	40,854,150.0	47,552,122.7	54,950,821.5	63,106,352.3	72,015,600.9	81,279,702.5	91,356,730.7	101,435,799.4	111,880,218.3	122,826,794.9	134,025,709.4	145,780,122.1	158,137,663.7	170,970,562.0	184,339,020.1

External Combustion (MMBtu/yr) = External Combustion (MMBtu/yr) / 73% thermal efficiency

External Combustion Required Fuel Input (MMBtu/yr) - Maximum Ratio Case (avg + std dev)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	5,662,527.3	7,544,905.6	10,128,115.7	13,443,634.8	17,530,272.6	22,490,016.7	27,643,277.2	32,783,093.1	37,912,884.6	43,061,891.0	48,295,515.9	54,096,267.3	60,384,247.0	67,163,211.0	74,414,983.8	82,135,764.7
Moderate Demand	12,196,396.3	15,546,479.3	19,797,210.9	24,974,389.2	31,189,909.4	38,494,680.8	46,245,875.5	54,287,381.6	62,480,460.4	70,906,290.3	79,670,813.7	89,295,304.7	99,508,301.9	110,339,964.5	121,776,718.4	133,799,974.0
Ambitious Demand	47,772,346.6	56,118,337.9	65,318,849.8	75,481,897.7	86,684,549.9	98,922,528.7	111,647,943.0	125,490,014.7	139,334,889.3	153,681,618.5	168,718,124.9	184,101,249.2	200,247,420.5	217,222,065.6	234,849,673.1	253,212,939.7

H2 Production Including Fuel (MMBtu/yr) = H2 Demand (MMBtu/yr) + External Combustion (MMBtu/yr)

H2 Production Including Fuel (MMBtu/yr) - Maximum Ratio Case (avg + std dev)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	20,702,589.5	27,584,694.5	37,029,088.3	49,150,854.4	64,091,883.7	82,225,049.6	101,065,724.7	119,857,245.2	138,612,116.4	157,437,238.3	176,571,731.1	197,779,677.5	220,768,964.5	245,553,323.3	272,066,303.9	300,294,010.7
Moderate Demand	44,590,864.6	56,838,998.8	72,379,966.2	91,308,086.3	114,032,456.1	140,739,203.1	169,078,104.8	198,478,404.6	228,432,864.8	259,238,279.2	291,281,980.1	326,469,781.7	363,809,202.5	403,410,507.0	445,224,066.7	489,181,916.7
Ambitious Demand	174,658,988.1	205,172,507.0	238,810,212.0	275,967,014.8	316,924,682.5	361,667,575.5	408,192,566.5	458,800,133.6	509,417,948.0	561,870,577.8	616,845,080.4	673,086,842.0	732,118,355.8	794,178,826.9	858,626,573.7	925,763,940.7

H2 Production Inc Fuel (MT/yr) = H2 Production Inc Fuel (MMBtu/yr) * 1,000,000 Btu/MMBtu * (1/60920 Btu/lb)*(1/2204.6 lb/MT)

H2 Production Including Fuel (MT/yr) - Maximum Ratio Case (avg + std dev)

	Year															
Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative Demand	154,147.0	205,389.6	275,710.5	365,966.5	477,214.2	612,229.8	752,513.3	892,430.9	1,032,075.6	1,172,243.3	1,314,714.6	1,472,624.3	1,643,797.5	1,828,336.5	2,025,746.3	2,235,923.7
Moderate Demand	332,013.8	423,210.8	538,925.4	679,860.1	849,060.8	1,047,913.4	1,258,918.7	1,477,826.9	1,700,861.3	1,930,231.6	2,168,822.1	2,430,822.7	2,708,843.9	3,003,706.6	3,315,041.2	3,642,341.8
Ambitious Demand	1,300,472.7	1,527,669.7	1,778,128.7	2,054,790.2	2,359,752.0	2,692,897.8	3,039,312.8	3,416,125.7	3,793,014.9	4,183,565.7	4,592,893.8	5,011,657.7	5,451,193.5	5,913,282.2	6,393,146.1	6,893,036.3

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
115		**H2 Production Including Fuel (kg/yr) = H2 Demand (MT/yr) * 1000 (kg/MT)**																	
116		**H2 Production Including Fuel (kg/yr) - Maximum Ratio Case (avg + std dev)**																	
117				**Year**															
118			**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
119			Conservative Demand	154,146,963.3	205,389,615.0	275,710,509.9	365,966,534.5	477,214,177.9	612,229,773.6	752,513,328.9	892,430,889.7	1,032,075,567.3	1,172,243,316.0	1,314,714,573.6	1,472,624,313.7	1,643,797,527.4	1,828,336,454.2	2,025,746,321.5	2,235,923,665.7
120			Moderate Demand	332,013,846.2	423,210,780.4	538,925,431.3	679,860,083.0	849,060,781.2	1,047,913,390.7	1,258,918,667.9	1,477,826,883.0	1,700,861,256.8	1,930,231,649.2	2,168,822,052.4	2,430,822,743.8	2,708,843,921.9	3,003,706,591.8	3,315,041,231.8	3,642,341,789.3
121			Ambitious Demand	1,300,472,706.3	1,527,669,708.7	1,778,128,718.8	2,054,790,163.4	2,359,752,018.1	2,692,897,834.1	3,039,312,763.2	3,416,125,663.1	3,793,014,861.9	4,183,565,696.2	4,592,893,844.2	5,011,657,726.3	5,451,193,494.8	5,913,282,218.4	6,393,146,075.3	6,893,036,257.2
122																			
139		**H2 Production Including Fuel (MMscf/day) = H2 Production Including Fuel (MT/yr) ÷ 365 (days/yr) * 2204.6 (lb/MT) * (1/0.005209 lb/scf) * (1/1,000,000 scf/MMscf)**																	
140		**H2 Production Including Fuel (MMscf/day) - Maximum Ratio Case (avg + std dev)**																	
141				**Year**															
142			**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
143			Conservative Demand	178.7	238.2	319.7	424.3	553.3	709.9	872.6	1,034.8	1,196.7	1,359.3	1,524.5	1,707.6	1,906.0	2,120.0	2,348.9	2,592.6
144			Moderate Demand	385.0	490.7	624.9	788.3	984.5	1,215.1	1,459.8	1,713.6	1,972.2	2,238.2	2,514.8	2,818.6	3,141.0	3,482.9	3,843.9	4,223.4
145			Ambitious Demand	1,507.9	1,771.4	2,061.8	2,382.6	2,736.2	3,122.5	3,524.2	3,961.1	4,398.1	4,851.0	5,325.6	5,811.2	6,320.8	6,856.6	7,413.1	7,992.7
146																			
147		**TOTAL Ext Combustion (MMBtu/yr) = H2 Demand (MMscf/day) * 3.62 (MMBtu/hr)/(MMscf/day) * 8760 (hr/yr)**																	
148		**TOTAL Ext Combustion MMBtu/yr - Maximum Ratio Case (avg + std dev)**																	
149				**Year**															
150			**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
151			Conservative Demand	5,674,357.9	7,560,669.1	10,149,276.2	13,471,722.3	17,566,898.3	22,537,004.7	27,701,031.8	32,851,586.1	37,992,095.3	43,151,859.4	48,396,418.8	54,209,289.5	60,510,406.7	67,303,533.8	74,570,457.6	82,307,369.4
152			Moderate Demand	12,221,878.0	15,578,960.3	19,838,572.9	25,026,567.7	31,255,073.9	38,575,107.0	46,342,496.1	54,400,803.1	62,610,999.6	71,054,433.5	79,837,268.4	89,481,867.7	99,716,202.6	110,570,495.7	122,031,144.2	134,079,519.7
153			Ambitious Demand	47,872,156.4	56,235,584.9	65,455,319.2	75,639,600.6	86,865,658.3	99,129,205.6	111,881,206.9	125,752,198.6	139,625,999.0	154,002,702.5	169,070,624.4	184,485,888.4	200,665,793.5	217,675,903.4	235,340,340.0	253,741,972.6
154																			
155		**TOTAL Ext Combustion (MMBtu/yr) = H2 Demand (MMscf/day) * 2.97 (MMBtu/hr)/(MMscf/day) * 8760 (hr/yr)**																	
156		**TOTAL Ext Combustion MMBtu/yr - Average Ratio Case (avg)**																	
157				**Year**															
158			**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
159			Conservative Demand	4,654,090.2	6,201,236.6	8,324,403.8	11,049,463.5	14,408,313.7	18,484,779.1	22,720,297.6	26,944,765.7	31,160,994.9	35,393,016.9	39,694,587.7	44,462,285.7	49,630,441.8	55,202,142.8	61,162,450.4	67,508,240.8
160			Moderate Demand	10,024,345.2	12,777,813.3	16,271,533.9	20,526,710.7	25,635,311.5	31,639,179.2	38,009,966.9	44,619,364.5	51,353,341.3	58,278,618.8	65,482,271.8	73,392,741.2	81,786,910.0	90,689,566.4	100,089,553.6	109,971,592.6
161			Ambitious Demand	39,264,589.4	46,124,246.6	53,686,243.2	62,039,358.1	71,246,934.7	81,305,457.0	91,764,607.6	103,141,550.5	114,520,797.1	126,312,523.4	138,671,184.6	151,314,734.8	164,585,441.2	178,537,078.8	193,025,393.1	208,118,353.2
162																			
163		**TOTAL Ext Combustion (MMBtu/yr) = H2 Demand (MMscf/day) * 2.32 (MMBtu/hr)/(MMscf/day) * 8760 (hr/yr)**																	
164		**TOTAL Ext Combustion MMBtu/yr - Minimum Ratio Case (avg - std dev)**																	
165				**Year**															
166			**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
167			Conservative Demand	3,633,822.4	4,841,804.0	6,499,531.4	8,627,204.7	11,249,729.1	14,432,553.4	17,739,563.3	21,037,945.3	24,329,894.5	27,634,174.3	30,992,756.6	34,715,281.8	38,750,476.8	43,100,751.9	47,754,443.3	52,709,112.1
168			Moderate Demand	7,826,812.4	9,976,666.4	12,704,495.0	16,026,853.6	20,015,549.1	24,703,251.4	29,677,437.7	34,837,925.9	40,095,683.1	45,502,804.1	51,127,275.3	57,303,614.8	63,857,617.4	70,808,637.2	78,147,963.0	85,863,665.5
169			Ambitious Demand	30,657,022.3	36,012,908.3	41,917,167.1	48,439,115.7	55,628,211.1	63,481,708.3	71,648,008.2	80,530,902.5	89,415,595.3	98,622,344.2	108,271,744.8	118,143,581.2	128,505,088.8	139,398,254.2	150,710,446.2	162,494,733.9
170																			
171		**External Combustion (inc fuel) NOx Emissions (tpy) = TOTAL Ext Combustion (MMBtu/yr) * NOx EF (lb/MMBtu) * (1/2000)**																	
172		**External Combustion (inc fuel) NOx Emissions (tpy) - Maximum Ratio Case (avg + std dev)**																	
173				**Year**															
174			**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
175		N	Conservative Demand	16.5	22.0	29.6	39.2	51.2	65.7	80.7	95.7	110.7	125.7	141.0	157.9	176.3	196.1	217.3	239.8
176		N	Moderate Demand	35.6	45.4	57.8	72.9	91.1	112.4	135.0	158.5	182.4	207.0	232.6	260.7	290.5	322.1	355.5	390.6
177		N	Ambitious Demand	139.5	163.8	190.7	220.4	253.1	288.8	326.0	366.4	406.8	448.7	492.6	537.5	584.6	634.2	685.6	739.3
178		N	Conservative Demand	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011
179		N	Moderate Demand	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011
180		N	Ambitious Demand	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011
181																			

	AB	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
182	**External Combustion (inc fuel) NOx Emissions (tpy) = TOTAL Ext Combustion (MMBtu/yr) * NOx EF (lb/MMBtu) * (1/2000)**																	
183	**External Combustion (inc fuel) NOx Emissions (tpy) - Average Ratio Case (avg)**																	
184			**Year**															
185		**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
186	A	Conservative Demand	13.6	18.1	24.3	32.2	42.0	53.9	66.2	78.5	90.8	103.1	115.6	129.5	144.6	160.8	178.2	196.7
187	A	Moderate Demand	29.2	37.2	47.4	59.8	74.7	92.2	110.7	130.0	149.6	169.8	190.8	213.8	238.3	264.2	291.6	320.4
188	A	Ambitious Demand	114.4	134.4	156.4	180.7	207.6	236.9	267.4	300.5	333.6	368.0	404.0	440.8	479.5	520.2	562.4	606.3
189	A	Conservative Demand	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009
190	A	Moderate Demand	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009
191	A	Ambitious Demand	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009	0.00000009
192																		
193	**External Combustion (inc fuel) NOx Emissions (tpy) =TOTAL Ext Combustion (MMBtu/yr) * NOx EF (lb/MMBtu) * (1/2000)**																	
194	**External Combustion (inc fuel) NOx Emissions (tpy) - Minimum Ratio Case (avg - std dev)**																	
195			**Year**															
196		**Scenario**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
197	N	Conservative Demand	10.6	14.1	18.9	25.1	32.8	42.0	51.7	61.3	70.9	80.5	90.3	101.1	112.9	125.6	139.1	153.6
198	N	Moderate Demand	22.8	29.1	37.0	46.7	58.3	72.0	86.5	101.5	116.8	132.6	149.0	167.0	186.0	206.3	227.7	250.2
199	N	Ambitious Demand	89.3	104.9	122.1	141.1	162.1	184.9	208.7	234.6	260.5	287.3	315.4	344.2	374.4	406.1	439.1	473.4
200	N	Conservative Demand	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007
201	N	Moderate Demand	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007
202	N	Ambitious Demand	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007
203																		

Appendix D.6:

Storage and Transmission

NOx Results, Calculations, and Data

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-S&T_Low (Long-Turbine-UG)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY49
1-S&T_Low (Long-Turbine-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY50
1-S&T_Low (Long-Turbine-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY51
1-S&T_Low (Long-Turbine-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY52
1-S&T_Low (Long-Turbine-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY53
1-S&T_Low (Long-Turbine-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY54
1-S&T_Low (Long-Turbine-UG)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY55
1-S&T_Low (Long-Turbine-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY56
1-S&T_Low (Long-Turbine-UG)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY58
1-S&T_Low (Long-Turbine-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY59
1-S&T_Low (Long-Turbine-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY60
1-S&T_Low (Long-Turbine-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY61
1-S&T_Low (Long-Turbine-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY62
1-S&T_Low (Long-Turbine-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY63
1-S&T_Low (Long-Turbine-UG)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY64
1-S&T_Low (Long-Turbine-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY65
1-S&T_Low (Long-Turbine-UG)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY67
1-S&T_Low (Long-Turbine-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY68
1-S&T_Low (Long-Turbine-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY69
1-S&T_Low (Long-Turbine-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY70
1-S&T_Low (Long-Turbine-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY71
1-S&T_Low (Long-Turbine-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY72
1-S&T_Low (Long-Turbine-UG)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY73
1-S&T_Low (Long-Turbine-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY74
1-S&T_Low (Long-Turbine-UG)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY76
1-S&T_Low (Long-Turbine-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY77
1-S&T_Low (Long-Turbine-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY78
1-S&T_Low (Long-Turbine-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY79
1-S&T_Low (Long-Turbine-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY80
1-S&T_Low (Long-Turbine-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY81
1-S&T_Low (Long-Turbine-UG)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY82
1-S&T_Low (Long-Turbine-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY83
1-S&T_Low (Long-Turbine-UG)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY85
1-S&T_Low (Long-Turbine-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY86
1-S&T_Low (Long-Turbine-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY87
1-S&T_Low (Long-Turbine-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY88
1-S&T_Low (Long-Turbine-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY89
1-S&T_Low (Long-Turbine-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY90

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-S&T_Low (Long-Turbine-UG)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY91
1-S&T_Low (Long-Turbine-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY92
1-S&T_Low (Long-Turbine-UG)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY94
1-S&T_Low (Long-Turbine-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY95
1-S&T_Low (Long-Turbine-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY96
1-S&T_Low (Long-Turbine-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY97
1-S&T_Low (Long-Turbine-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY98
1-S&T_Low (Long-Turbine-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY99
1-S&T_Low (Long-Turbine-UG)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY100
1-S&T_Low (Long-Turbine-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY101
1-S&T_Low (Long-Turbine-UG)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY103
1-S&T_Low (Long-Turbine-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY104
1-S&T_Low (Long-Turbine-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY105
1-S&T_Low (Long-Turbine-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY106
1-S&T_Low (Long-Turbine-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY107
1-S&T_Low (Long-Turbine-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY108
1-S&T_Low (Long-Turbine-UG)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY109
1-S&T_Low (Long-Turbine-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY110
1-S&T_Low (Long-Turbine-UG)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY112
1-S&T_Low (Long-Turbine-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY113
1-S&T_Low (Long-Turbine-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY114
1-S&T_Low (Long-Turbine-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY115
1-S&T_Low (Long-Turbine-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY116
1-S&T_Low (Long-Turbine-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY117
1-S&T_Low (Long-Turbine-UG)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY118
1-S&T_Low (Long-Turbine-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY119
1-S&T_Low (Long-Turbine-UG)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY121
1-S&T_Low (Long-Turbine-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY122
1-S&T_Low (Long-Turbine-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY123
1-S&T_Low (Long-Turbine-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY124
1-S&T_Low (Long-Turbine-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY125
1-S&T_Low (Long-Turbine-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY126
1-S&T_Low (Long-Turbine-UG)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY127
1-S&T_Low (Long-Turbine-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY128
1-S&T_Low (Long-Turbine-UG)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY130
1-S&T_Low (Long-Turbine-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY131
1-S&T_Low (Long-Turbine-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY132
1-S&T_Low (Long-Turbine-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY133

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-S&T_Low (Long-Turbine-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY134
1-S&T_Low (Long-Turbine-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY135
1-S&T_Low (Long-Turbine-UG)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY136
1-S&T_Low (Long-Turbine-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY137
1-S&T_Low (Long-Turbine-UG)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY139
1-S&T_Low (Long-Turbine-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY140
1-S&T_Low (Long-Turbine-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY141
1-S&T_Low (Long-Turbine-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY142
1-S&T_Low (Long-Turbine-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY143
1-S&T_Low (Long-Turbine-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY144
1-S&T_Low (Long-Turbine-UG)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY145
1-S&T_Low (Long-Turbine-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY146
1-S&T_Low (Long-Turbine-UG)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY148
1-S&T_Low (Long-Turbine-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY149
1-S&T_Low (Long-Turbine-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY150
1-S&T_Low (Long-Turbine-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY151
1-S&T_Low (Long-Turbine-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY152
1-S&T_Low (Long-Turbine-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY153
1-S&T_Low (Long-Turbine-UG)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY154
1-S&T_Low (Long-Turbine-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY155
1-S&T_Low (Long-Turbine-UG)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY157
1-S&T_Low (Long-Turbine-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY158
1-S&T_Low (Long-Turbine-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY159
1-S&T_Low (Long-Turbine-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY160
1-S&T_Low (Long-Turbine-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY161
1-S&T_Low (Long-Turbine-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY162
1-S&T_Low (Long-Turbine-UG)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY163
1-S&T_Low (Long-Turbine-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY164
1-S&T_Low (Long-Turbine-UG)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY166
1-S&T_Low (Long-Turbine-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY167
1-S&T_Low (Long-Turbine-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY168
1-S&T_Low (Long-Turbine-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY169
1-S&T_Low (Long-Turbine-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY170
1-S&T_Low (Long-Turbine-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY171
1-S&T_Low (Long-Turbine-UG)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY172
1-S&T_Low (Long-Turbine-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY173
1-S&T_Low (Long-Turbine-UG)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY175
1-S&T_Low (Long-Turbine-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY176

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
1-S&T_Low (Long-Turbine-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY177
1-S&T_Low (Long-Turbine-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY178
1-S&T_Low (Long-Turbine-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY179
1-S&T_Low (Long-Turbine-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY180
1-S&T_Low (Long-Turbine-UG)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY181
1-S&T_Low (Long-Turbine-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY182
1-S&T_Low (Long-Turbine-UG)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY184
1-S&T_Low (Long-Turbine-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY185
1-S&T_Low (Long-Turbine-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY186
1-S&T_Low (Long-Turbine-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY187
1-S&T_Low (Long-Turbine-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY188
1-S&T_Low (Long-Turbine-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY189
1-S&T_Low (Long-Turbine-UG)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY190
1-S&T_Low (Long-Turbine-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY191
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY238
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY239
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY240
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY241
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY242
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY243
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY244
2-S&T_Low (Long-Turbine-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY245
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY247
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY248
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY249
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY250
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY251
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY252
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY253
2-S&T_Low (Long-Turbine-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY254
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY256
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY257
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY258
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY259
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY260
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY261
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY262
2-S&T_Low (Long-Turbine-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY263

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY265
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY266
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY267
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY268
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY269
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY270
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY271
2-S&T_Low (Long-Turbine-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY272
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY274
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY275
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY276
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY277
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY278
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY279
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY280
2-S&T_Low (Long-Turbine-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY281
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY283
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY284
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY285
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY286
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY287
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY288
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY289
2-S&T_Low (Long-Turbine-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY290
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY292
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY293
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY294
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY295
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY296
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY297
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY298
2-S&T_Low (Long-Turbine-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY299
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY301
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY302
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY303
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY304
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY305
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY306

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	Fuel Type	Parameter	Value	Reference
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY307
2-S&T_Low (Long-Turbine-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY308
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY310
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY311
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY312
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY313
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY314
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY315
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY316
2-S&T_Low (Long-Turbine-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY317
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY319
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY320
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY321
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY322
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY323
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY324
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY325
2-S&T_Low (Long-Turbine-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY326
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY328
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY329
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY330
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY331
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY332
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY333
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY334
2-S&T_Low (Long-Turbine-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY335
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY337
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY338
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY339
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY340
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY341
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY342
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY343
2-S&T_Low (Long-Turbine-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY344
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY346
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY347
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY348
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY349

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY350
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY351
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY352
2-S&T_Low (Long-Turbine-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY353
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY355
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY356
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY357
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY358
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY359
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY360
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY361
2-S&T_Low (Long-Turbine-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY362
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY364
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY365
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY366
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY367
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY368
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY369
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY370
2-S&T_Low (Long-Turbine-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY371
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY373
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY374
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY375
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY376
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY377
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY378
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY379
2-S&T_Low (Long-Turbine-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY380
3-S&T_Low (Long-Recip-UG)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY427
3-S&T_Low (Long-Recip-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY428
3-S&T_Low (Long-Recip-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY429
3-S&T_Low (Long-Recip-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY430
3-S&T_Low (Long-Recip-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY431
3-S&T_Low (Long-Recip-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY432
3-S&T_Low (Long-Recip-UG)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY433
3-S&T_Low (Long-Recip-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY434
3-S&T_Low (Long-Recip-UG)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY436
3-S&T_Low (Long-Recip-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY437

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3-S&T_Low (Long-Recip-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY438
3-S&T_Low (Long-Recip-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY439
3-S&T_Low (Long-Recip-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY440
3-S&T_Low (Long-Recip-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY441
3-S&T_Low (Long-Recip-UG)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY442
3-S&T_Low (Long-Recip-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY443
3-S&T_Low (Long-Recip-UG)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY445
3-S&T_Low (Long-Recip-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY446
3-S&T_Low (Long-Recip-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY447
3-S&T_Low (Long-Recip-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY448
3-S&T_Low (Long-Recip-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY449
3-S&T_Low (Long-Recip-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY450
3-S&T_Low (Long-Recip-UG)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY451
3-S&T_Low (Long-Recip-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY452
3-S&T_Low (Long-Recip-UG)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY454
3-S&T_Low (Long-Recip-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY455
3-S&T_Low (Long-Recip-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY456
3-S&T_Low (Long-Recip-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY457
3-S&T_Low (Long-Recip-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY458
3-S&T_Low (Long-Recip-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY459
3-S&T_Low (Long-Recip-UG)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY460
3-S&T_Low (Long-Recip-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY461
3-S&T_Low (Long-Recip-UG)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY463
3-S&T_Low (Long-Recip-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY464
3-S&T_Low (Long-Recip-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY465
3-S&T_Low (Long-Recip-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY466
3-S&T_Low (Long-Recip-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY467
3-S&T_Low (Long-Recip-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY468
3-S&T_Low (Long-Recip-UG)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY469
3-S&T_Low (Long-Recip-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY470
3-S&T_Low (Long-Recip-UG)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY472
3-S&T_Low (Long-Recip-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY473
3-S&T_Low (Long-Recip-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY474
3-S&T_Low (Long-Recip-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY475
3-S&T_Low (Long-Recip-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY476
3-S&T_Low (Long-Recip-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY477
3-S&T_Low (Long-Recip-UG)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY478
3-S&T_Low (Long-Recip-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY479

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3-S&T_Low (Long-Recip-UG)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY481
3-S&T_Low (Long-Recip-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY482
3-S&T_Low (Long-Recip-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY483
3-S&T_Low (Long-Recip-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY484
3-S&T_Low (Long-Recip-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY485
3-S&T_Low (Long-Recip-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY486
3-S&T_Low (Long-Recip-UG)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY487
3-S&T_Low (Long-Recip-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY488
3-S&T_Low (Long-Recip-UG)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY490
3-S&T_Low (Long-Recip-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY491
3-S&T_Low (Long-Recip-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY492
3-S&T_Low (Long-Recip-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY493
3-S&T_Low (Long-Recip-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY494
3-S&T_Low (Long-Recip-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY495
3-S&T_Low (Long-Recip-UG)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY496
3-S&T_Low (Long-Recip-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY497
3-S&T_Low (Long-Recip-UG)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY499
3-S&T_Low (Long-Recip-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY500
3-S&T_Low (Long-Recip-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY501
3-S&T_Low (Long-Recip-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY502
3-S&T_Low (Long-Recip-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY503
3-S&T_Low (Long-Recip-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY504
3-S&T_Low (Long-Recip-UG)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY505
3-S&T_Low (Long-Recip-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY506
3-S&T_Low (Long-Recip-UG)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY508
3-S&T_Low (Long-Recip-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY509
3-S&T_Low (Long-Recip-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY510
3-S&T_Low (Long-Recip-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY511
3-S&T_Low (Long-Recip-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY512
3-S&T_Low (Long-Recip-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY513
3-S&T_Low (Long-Recip-UG)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY514
3-S&T_Low (Long-Recip-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY515
3-S&T_Low (Long-Recip-UG)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY517
3-S&T_Low (Long-Recip-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY518
3-S&T_Low (Long-Recip-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY519
3-S&T_Low (Long-Recip-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY520
3-S&T_Low (Long-Recip-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY521
3-S&T_Low (Long-Recip-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY522

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3-S&T_Low (Long-Recip-UG)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY523
3-S&T_Low (Long-Recip-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY524
3-S&T_Low (Long-Recip-UG)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY526
3-S&T_Low (Long-Recip-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY527
3-S&T_Low (Long-Recip-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY528
3-S&T_Low (Long-Recip-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY529
3-S&T_Low (Long-Recip-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY530
3-S&T_Low (Long-Recip-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY531
3-S&T_Low (Long-Recip-UG)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY532
3-S&T_Low (Long-Recip-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY533
3-S&T_Low (Long-Recip-UG)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY535
3-S&T_Low (Long-Recip-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY536
3-S&T_Low (Long-Recip-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY537
3-S&T_Low (Long-Recip-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY538
3-S&T_Low (Long-Recip-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY539
3-S&T_Low (Long-Recip-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY540
3-S&T_Low (Long-Recip-UG)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY541
3-S&T_Low (Long-Recip-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY542
3-S&T_Low (Long-Recip-UG)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY544
3-S&T_Low (Long-Recip-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY545
3-S&T_Low (Long-Recip-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY546
3-S&T_Low (Long-Recip-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY547
3-S&T_Low (Long-Recip-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY548
3-S&T_Low (Long-Recip-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY549
3-S&T_Low (Long-Recip-UG)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY550
3-S&T_Low (Long-Recip-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY551
3-S&T_Low (Long-Recip-UG)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY553
3-S&T_Low (Long-Recip-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY554
3-S&T_Low (Long-Recip-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY555
3-S&T_Low (Long-Recip-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY556
3-S&T_Low (Long-Recip-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY557
3-S&T_Low (Long-Recip-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY558
3-S&T_Low (Long-Recip-UG)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY559
3-S&T_Low (Long-Recip-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY560
3-S&T_Low (Long-Recip-UG)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY562
3-S&T_Low (Long-Recip-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY563
3-S&T_Low (Long-Recip-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY564
3-S&T_Low (Long-Recip-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY565

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
3-S&T_Low (Long-Recip-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY566
3-S&T_Low (Long-Recip-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY567
3-S&T_Low (Long-Recip-UG)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY568
3-S&T_Low (Long-Recip-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY569
4-S&T_Low (Long-Recip-Sphere)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY616
4-S&T_Low (Long-Recip-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY617
4-S&T_Low (Long-Recip-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY618
4-S&T_Low (Long-Recip-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY619
4-S&T_Low (Long-Recip-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY620
4-S&T_Low (Long-Recip-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY621
4-S&T_Low (Long-Recip-Sphere)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY622
4-S&T_Low (Long-Recip-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY623
4-S&T_Low (Long-Recip-Sphere)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY625
4-S&T_Low (Long-Recip-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY626
4-S&T_Low (Long-Recip-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY627
4-S&T_Low (Long-Recip-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY628
4-S&T_Low (Long-Recip-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY629
4-S&T_Low (Long-Recip-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY630
4-S&T_Low (Long-Recip-Sphere)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY631
4-S&T_Low (Long-Recip-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY632
4-S&T_Low (Long-Recip-Sphere)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY634
4-S&T_Low (Long-Recip-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY635
4-S&T_Low (Long-Recip-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY636
4-S&T_Low (Long-Recip-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY637
4-S&T_Low (Long-Recip-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY638
4-S&T_Low (Long-Recip-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY639
4-S&T_Low (Long-Recip-Sphere)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY640
4-S&T_Low (Long-Recip-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY641
4-S&T_Low (Long-Recip-Sphere)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY643
4-S&T_Low (Long-Recip-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY644
4-S&T_Low (Long-Recip-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY645
4-S&T_Low (Long-Recip-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY646
4-S&T_Low (Long-Recip-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY647
4-S&T_Low (Long-Recip-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY648
4-S&T_Low (Long-Recip-Sphere)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY649
4-S&T_Low (Long-Recip-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY650
4-S&T_Low (Long-Recip-Sphere)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY652
4-S&T_Low (Long-Recip-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY653

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4-S&T_Low (Long-Recip-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY654
4-S&T_Low (Long-Recip-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY655
4-S&T_Low (Long-Recip-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY656
4-S&T_Low (Long-Recip-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY657
4-S&T_Low (Long-Recip-Sphere)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY658
4-S&T_Low (Long-Recip-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY659
4-S&T_Low (Long-Recip-Sphere)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY661
4-S&T_Low (Long-Recip-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY662
4-S&T_Low (Long-Recip-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY663
4-S&T_Low (Long-Recip-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY664
4-S&T_Low (Long-Recip-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY665
4-S&T_Low (Long-Recip-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY666
4-S&T_Low (Long-Recip-Sphere)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY667
4-S&T_Low (Long-Recip-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY668
4-S&T_Low (Long-Recip-Sphere)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY670
4-S&T_Low (Long-Recip-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY671
4-S&T_Low (Long-Recip-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY672
4-S&T_Low (Long-Recip-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY673
4-S&T_Low (Long-Recip-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY674
4-S&T_Low (Long-Recip-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY675
4-S&T_Low (Long-Recip-Sphere)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY676
4-S&T_Low (Long-Recip-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY677
4-S&T_Low (Long-Recip-Sphere)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY679
4-S&T_Low (Long-Recip-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY680
4-S&T_Low (Long-Recip-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY681
4-S&T_Low (Long-Recip-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY682
4-S&T_Low (Long-Recip-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY683
4-S&T_Low (Long-Recip-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY684
4-S&T_Low (Long-Recip-Sphere)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY685
4-S&T_Low (Long-Recip-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY686
4-S&T_Low (Long-Recip-Sphere)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY688
4-S&T_Low (Long-Recip-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY689
4-S&T_Low (Long-Recip-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY690
4-S&T_Low (Long-Recip-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY691
4-S&T_Low (Long-Recip-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY692
4-S&T_Low (Long-Recip-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY693
4-S&T_Low (Long-Recip-Sphere)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY694
4-S&T_Low (Long-Recip-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY695

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4-S&T_Low (Long-Recip-Sphere)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY697
4-S&T_Low (Long-Recip-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY698
4-S&T_Low (Long-Recip-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY699
4-S&T_Low (Long-Recip-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY700
4-S&T_Low (Long-Recip-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY701
4-S&T_Low (Long-Recip-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY702
4-S&T_Low (Long-Recip-Sphere)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY703
4-S&T_Low (Long-Recip-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY704
4-S&T_Low (Long-Recip-Sphere)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY706
4-S&T_Low (Long-Recip-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY707
4-S&T_Low (Long-Recip-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY708
4-S&T_Low (Long-Recip-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY709
4-S&T_Low (Long-Recip-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY710
4-S&T_Low (Long-Recip-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY711
4-S&T_Low (Long-Recip-Sphere)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY712
4-S&T_Low (Long-Recip-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY713
4-S&T_Low (Long-Recip-Sphere)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY715
4-S&T_Low (Long-Recip-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY716
4-S&T_Low (Long-Recip-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY717
4-S&T_Low (Long-Recip-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY718
4-S&T_Low (Long-Recip-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY719
4-S&T_Low (Long-Recip-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY720
4-S&T_Low (Long-Recip-Sphere)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY721
4-S&T_Low (Long-Recip-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY722
4-S&T_Low (Long-Recip-Sphere)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY724
4-S&T_Low (Long-Recip-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY725
4-S&T_Low (Long-Recip-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY726
4-S&T_Low (Long-Recip-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY727
4-S&T_Low (Long-Recip-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY728
4-S&T_Low (Long-Recip-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY729
4-S&T_Low (Long-Recip-Sphere)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY730
4-S&T_Low (Long-Recip-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY731
4-S&T_Low (Long-Recip-Sphere)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY733
4-S&T_Low (Long-Recip-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY734
4-S&T_Low (Long-Recip-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY735
4-S&T_Low (Long-Recip-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY736
4-S&T_Low (Long-Recip-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY737
4-S&T_Low (Long-Recip-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY738

Tab Contents

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
4-S&T_Low (Long-Recip-Sphere)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY739
4-S&T_Low (Long-Recip-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY740
4-S&T_Low (Long-Recip-Sphere)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY742
4-S&T_Low (Long-Recip-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY743
4-S&T_Low (Long-Recip-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY744
4-S&T_Low (Long-Recip-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY745
4-S&T_Low (Long-Recip-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY746
4-S&T_Low (Long-Recip-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY747
4-S&T_Low (Long-Recip-Sphere)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY748
4-S&T_Low (Long-Recip-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY749
4-S&T_Low (Long-Recip-Sphere)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY751
4-S&T_Low (Long-Recip-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY752
4-S&T_Low (Long-Recip-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY753
4-S&T_Low (Long-Recip-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY754
4-S&T_Low (Long-Recip-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY755
4-S&T_Low (Long-Recip-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY756
4-S&T_Low (Long-Recip-Sphere)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY757
4-S&T_Low (Long-Recip-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY758
5-S&T_Low (Short-Turbine-UG)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY805
5-S&T_Low (Short-Turbine-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY806
5-S&T_Low (Short-Turbine-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY807
5-S&T_Low (Short-Turbine-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY808
5-S&T_Low (Short-Turbine-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY809
5-S&T_Low (Short-Turbine-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY810
5-S&T_Low (Short-Turbine-UG)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY811
5-S&T_Low (Short-Turbine-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY812
5-S&T_Low (Short-Turbine-UG)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY814
5-S&T_Low (Short-Turbine-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY815
5-S&T_Low (Short-Turbine-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY816
5-S&T_Low (Short-Turbine-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY817
5-S&T_Low (Short-Turbine-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY818
5-S&T_Low (Short-Turbine-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY819
5-S&T_Low (Short-Turbine-UG)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY820
5-S&T_Low (Short-Turbine-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY821
5-S&T_Low (Short-Turbine-UG)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY823
5-S&T_Low (Short-Turbine-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY824
5-S&T_Low (Short-Turbine-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY825
5-S&T_Low (Short-Turbine-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY826

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5-S&T_Low (Short-Turbine-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY827
5-S&T_Low (Short-Turbine-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY828
5-S&T_Low (Short-Turbine-UG)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY829
5-S&T_Low (Short-Turbine-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY830
5-S&T_Low (Short-Turbine-UG)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY832
5-S&T_Low (Short-Turbine-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY833
5-S&T_Low (Short-Turbine-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY834
5-S&T_Low (Short-Turbine-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY835
5-S&T_Low (Short-Turbine-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY836
5-S&T_Low (Short-Turbine-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY837
5-S&T_Low (Short-Turbine-UG)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY838
5-S&T_Low (Short-Turbine-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY839
5-S&T_Low (Short-Turbine-UG)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY841
5-S&T_Low (Short-Turbine-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY842
5-S&T_Low (Short-Turbine-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY843
5-S&T_Low (Short-Turbine-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY844
5-S&T_Low (Short-Turbine-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY845
5-S&T_Low (Short-Turbine-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY846
5-S&T_Low (Short-Turbine-UG)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY847
5-S&T_Low (Short-Turbine-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY848
5-S&T_Low (Short-Turbine-UG)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY850
5-S&T_Low (Short-Turbine-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY851
5-S&T_Low (Short-Turbine-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY852
5-S&T_Low (Short-Turbine-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY853
5-S&T_Low (Short-Turbine-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY854
5-S&T_Low (Short-Turbine-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY855
5-S&T_Low (Short-Turbine-UG)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY856
5-S&T_Low (Short-Turbine-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY857
5-S&T_Low (Short-Turbine-UG)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY859
5-S&T_Low (Short-Turbine-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY860
5-S&T_Low (Short-Turbine-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY861
5-S&T_Low (Short-Turbine-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY862
5-S&T_Low (Short-Turbine-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY863
5-S&T_Low (Short-Turbine-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY864
5-S&T_Low (Short-Turbine-UG)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY865
5-S&T_Low (Short-Turbine-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY866
5-S&T_Low (Short-Turbine-UG)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY868
5-S&T_Low (Short-Turbine-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY869

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5-S&T_Low (Short-Turbine-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY870
5-S&T_Low (Short-Turbine-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY871
5-S&T_Low (Short-Turbine-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY872
5-S&T_Low (Short-Turbine-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY873
5-S&T_Low (Short-Turbine-UG)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY874
5-S&T_Low (Short-Turbine-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY875
5-S&T_Low (Short-Turbine-UG)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY877
5-S&T_Low (Short-Turbine-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY878
5-S&T_Low (Short-Turbine-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY879
5-S&T_Low (Short-Turbine-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY880
5-S&T_Low (Short-Turbine-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY881
5-S&T_Low (Short-Turbine-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY882
5-S&T_Low (Short-Turbine-UG)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY883
5-S&T_Low (Short-Turbine-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY884
5-S&T_Low (Short-Turbine-UG)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY886
5-S&T_Low (Short-Turbine-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY887
5-S&T_Low (Short-Turbine-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY888
5-S&T_Low (Short-Turbine-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY889
5-S&T_Low (Short-Turbine-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY890
5-S&T_Low (Short-Turbine-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY891
5-S&T_Low (Short-Turbine-UG)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY892
5-S&T_Low (Short-Turbine-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY893
5-S&T_Low (Short-Turbine-UG)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY895
5-S&T_Low (Short-Turbine-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY896
5-S&T_Low (Short-Turbine-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY897
5-S&T_Low (Short-Turbine-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY898
5-S&T_Low (Short-Turbine-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY899
5-S&T_Low (Short-Turbine-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY900
5-S&T_Low (Short-Turbine-UG)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY901
5-S&T_Low (Short-Turbine-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY902
5-S&T_Low (Short-Turbine-UG)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY904
5-S&T_Low (Short-Turbine-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY905
5-S&T_Low (Short-Turbine-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY906
5-S&T_Low (Short-Turbine-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY907
5-S&T_Low (Short-Turbine-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY908
5-S&T_Low (Short-Turbine-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY909
5-S&T_Low (Short-Turbine-UG)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY910
5-S&T_Low (Short-Turbine-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY911

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
5-S&T_Low (Short-Turbine-UG)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY913
5-S&T_Low (Short-Turbine-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY914
5-S&T_Low (Short-Turbine-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY915
5-S&T_Low (Short-Turbine-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY916
5-S&T_Low (Short-Turbine-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY917
5-S&T_Low (Short-Turbine-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY918
5-S&T_Low (Short-Turbine-UG)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY919
5-S&T_Low (Short-Turbine-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY920
5-S&T_Low (Short-Turbine-UG)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY922
5-S&T_Low (Short-Turbine-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY923
5-S&T_Low (Short-Turbine-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY924
5-S&T_Low (Short-Turbine-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY925
5-S&T_Low (Short-Turbine-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY926
5-S&T_Low (Short-Turbine-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY927
5-S&T_Low (Short-Turbine-UG)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY928
5-S&T_Low (Short-Turbine-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY929
5-S&T_Low (Short-Turbine-UG)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY931
5-S&T_Low (Short-Turbine-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY932
5-S&T_Low (Short-Turbine-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY933
5-S&T_Low (Short-Turbine-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY934
5-S&T_Low (Short-Turbine-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY935
5-S&T_Low (Short-Turbine-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY936
5-S&T_Low (Short-Turbine-UG)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY937
5-S&T_Low (Short-Turbine-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY938
5-S&T_Low (Short-Turbine-UG)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY940
5-S&T_Low (Short-Turbine-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY941
5-S&T_Low (Short-Turbine-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY942
5-S&T_Low (Short-Turbine-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY943
5-S&T_Low (Short-Turbine-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY944
5-S&T_Low (Short-Turbine-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY945
5-S&T_Low (Short-Turbine-UG)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY946
5-S&T_Low (Short-Turbine-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY947
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY994
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY995
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY996
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY997
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY998
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY999

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1000
6-S&T_Low (Short-Turbine-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1001
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1003
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1004
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1005
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1006
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1007
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1008
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1009
6-S&T_Low (Short-Turbine-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1010
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1012
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1013
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1014
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1015
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1016
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1017
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1018
6-S&T_Low (Short-Turbine-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1019
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1021
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1022
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1023
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1024
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1025
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1026
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1027
6-S&T_Low (Short-Turbine-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1028
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1030
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1031
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1032
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1033
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1034
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1035
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1036
6-S&T_Low (Short-Turbine-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1037
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1039
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1040
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1041
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1042

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1043
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1044
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1045
6-S&T_Low (Short-Turbine-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1046
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1048
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1049
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1050
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1051
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1052
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1053
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1054
6-S&T_Low (Short-Turbine-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1055
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1057
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1058
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1059
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1060
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1061
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1062
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1063
6-S&T_Low (Short-Turbine-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1064
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1066
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1067
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1068
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1069
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1070
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1071
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1072
6-S&T_Low (Short-Turbine-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1073
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1075
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1076
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1077
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1078
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1079
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1080
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1081
6-S&T_Low (Short-Turbine-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1082
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1084
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1085

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1086
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1087
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1088
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1089
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1090
6-S&T_Low (Short-Turbine-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1091
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1093
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1094
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1095
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1096
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1097
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1098
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1099
6-S&T_Low (Short-Turbine-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1100
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1102
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1103
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1104
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1105
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1106
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1107
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1108
6-S&T_Low (Short-Turbine-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1109
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1111
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1112
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1113
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1114
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1115
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1116
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1117
6-S&T_Low (Short-Turbine-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1118
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1120
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1121
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1122
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1123
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1124
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1125
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1126
6-S&T_Low (Short-Turbine-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1127

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1129
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1130
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1131
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1132
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1133
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1134
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1135
6-S&T_Low (Short-Turbine-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1136
7-S&T_Low (Short-Recip-UG)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1183
7-S&T_Low (Short-Recip-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1184
7-S&T_Low (Short-Recip-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1185
7-S&T_Low (Short-Recip-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1186
7-S&T_Low (Short-Recip-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1187
7-S&T_Low (Short-Recip-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1188
7-S&T_Low (Short-Recip-UG)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1189
7-S&T_Low (Short-Recip-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1190
7-S&T_Low (Short-Recip-UG)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1192
7-S&T_Low (Short-Recip-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1193
7-S&T_Low (Short-Recip-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1194
7-S&T_Low (Short-Recip-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1195
7-S&T_Low (Short-Recip-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1196
7-S&T_Low (Short-Recip-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1197
7-S&T_Low (Short-Recip-UG)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1198
7-S&T_Low (Short-Recip-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1199
7-S&T_Low (Short-Recip-UG)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1201
7-S&T_Low (Short-Recip-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1202
7-S&T_Low (Short-Recip-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1203
7-S&T_Low (Short-Recip-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1204
7-S&T_Low (Short-Recip-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1205
7-S&T_Low (Short-Recip-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1206
7-S&T_Low (Short-Recip-UG)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1207
7-S&T_Low (Short-Recip-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1208
7-S&T_Low (Short-Recip-UG)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1210
7-S&T_Low (Short-Recip-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1211
7-S&T_Low (Short-Recip-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1212
7-S&T_Low (Short-Recip-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1213
7-S&T_Low (Short-Recip-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1214
7-S&T_Low (Short-Recip-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1215

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
7-S&T_Low (Short-Recip-UG)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1216
7-S&T_Low (Short-Recip-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1217
7-S&T_Low (Short-Recip-UG)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1219
7-S&T_Low (Short-Recip-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1220
7-S&T_Low (Short-Recip-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1221
7-S&T_Low (Short-Recip-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1222
7-S&T_Low (Short-Recip-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1223
7-S&T_Low (Short-Recip-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1224
7-S&T_Low (Short-Recip-UG)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1225
7-S&T_Low (Short-Recip-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1226
7-S&T_Low (Short-Recip-UG)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1228
7-S&T_Low (Short-Recip-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1229
7-S&T_Low (Short-Recip-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1230
7-S&T_Low (Short-Recip-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1231
7-S&T_Low (Short-Recip-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1232
7-S&T_Low (Short-Recip-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1233
7-S&T_Low (Short-Recip-UG)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1234
7-S&T_Low (Short-Recip-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1235
7-S&T_Low (Short-Recip-UG)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1237
7-S&T_Low (Short-Recip-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1238
7-S&T_Low (Short-Recip-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1239
7-S&T_Low (Short-Recip-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1240
7-S&T_Low (Short-Recip-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1241
7-S&T_Low (Short-Recip-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1242
7-S&T_Low (Short-Recip-UG)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1243
7-S&T_Low (Short-Recip-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1244
7-S&T_Low (Short-Recip-UG)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1246
7-S&T_Low (Short-Recip-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1247
7-S&T_Low (Short-Recip-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1248
7-S&T_Low (Short-Recip-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1249
7-S&T_Low (Short-Recip-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1250
7-S&T_Low (Short-Recip-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1251
7-S&T_Low (Short-Recip-UG)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1252
7-S&T_Low (Short-Recip-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1253
7-S&T_Low (Short-Recip-UG)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1255
7-S&T_Low (Short-Recip-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1256
7-S&T_Low (Short-Recip-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1257
7-S&T_Low (Short-Recip-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1258

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
7-S&T_Low (Short-Recip-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1259
7-S&T_Low (Short-Recip-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1260
7-S&T_Low (Short-Recip-UG)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1261
7-S&T_Low (Short-Recip-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1262
7-S&T_Low (Short-Recip-UG)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1264
7-S&T_Low (Short-Recip-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1265
7-S&T_Low (Short-Recip-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1266
7-S&T_Low (Short-Recip-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1267
7-S&T_Low (Short-Recip-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1268
7-S&T_Low (Short-Recip-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1269
7-S&T_Low (Short-Recip-UG)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1270
7-S&T_Low (Short-Recip-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1271
7-S&T_Low (Short-Recip-UG)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1273
7-S&T_Low (Short-Recip-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1274
7-S&T_Low (Short-Recip-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1275
7-S&T_Low (Short-Recip-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1276
7-S&T_Low (Short-Recip-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1277
7-S&T_Low (Short-Recip-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1278
7-S&T_Low (Short-Recip-UG)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1279
7-S&T_Low (Short-Recip-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1280
7-S&T_Low (Short-Recip-UG)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1282
7-S&T_Low (Short-Recip-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1283
7-S&T_Low (Short-Recip-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1284
7-S&T_Low (Short-Recip-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1285
7-S&T_Low (Short-Recip-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1286
7-S&T_Low (Short-Recip-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1287
7-S&T_Low (Short-Recip-UG)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1288
7-S&T_Low (Short-Recip-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1289
7-S&T_Low (Short-Recip-UG)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1291
7-S&T_Low (Short-Recip-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1292
7-S&T_Low (Short-Recip-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1293
7-S&T_Low (Short-Recip-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1294
7-S&T_Low (Short-Recip-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1295
7-S&T_Low (Short-Recip-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1296
7-S&T_Low (Short-Recip-UG)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1297
7-S&T_Low (Short-Recip-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1298
7-S&T_Low (Short-Recip-UG)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1300
7-S&T_Low (Short-Recip-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1301

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
7-S&T_Low (Short-Recip-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1302
7-S&T_Low (Short-Recip-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1303
7-S&T_Low (Short-Recip-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1304
7-S&T_Low (Short-Recip-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1305
7-S&T_Low (Short-Recip-UG)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1306
7-S&T_Low (Short-Recip-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1307
7-S&T_Low (Short-Recip-UG)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1309
7-S&T_Low (Short-Recip-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1310
7-S&T_Low (Short-Recip-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1311
7-S&T_Low (Short-Recip-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1312
7-S&T_Low (Short-Recip-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1313
7-S&T_Low (Short-Recip-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1314
7-S&T_Low (Short-Recip-UG)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1315
7-S&T_Low (Short-Recip-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1316
7-S&T_Low (Short-Recip-UG)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1318
7-S&T_Low (Short-Recip-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1319
7-S&T_Low (Short-Recip-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1320
7-S&T_Low (Short-Recip-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1321
7-S&T_Low (Short-Recip-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1322
7-S&T_Low (Short-Recip-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1323
7-S&T_Low (Short-Recip-UG)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1324
7-S&T_Low (Short-Recip-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1325
8-S&T_Low (Short-Recip-Sphere)	2030_H2	Hydrogen (MMBtu/)	15040062.24	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1372
8-S&T_Low (Short-Recip-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1373
8-S&T_Low (Short-Recip-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1374
8-S&T_Low (Short-Recip-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1375
8-S&T_Low (Short-Recip-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1376
8-S&T_Low (Short-Recip-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1377
8-S&T_Low (Short-Recip-Sphere)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1378
8-S&T_Low (Short-Recip-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1379
8-S&T_Low (Short-Recip-Sphere)	2031_H2	Hydrogen (MMBtu/)	20039788.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1381
8-S&T_Low (Short-Recip-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1382
8-S&T_Low (Short-Recip-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1383
8-S&T_Low (Short-Recip-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1384
8-S&T_Low (Short-Recip-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1385
8-S&T_Low (Short-Recip-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1386
8-S&T_Low (Short-Recip-Sphere)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1387
8-S&T_Low (Short-Recip-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1388

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
8-S&T_Low (Short-Recip-Sphere)	2032_H2	Hydrogen (MMBtu/)	26900972.64	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1390
8-S&T_Low (Short-Recip-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1391
8-S&T_Low (Short-Recip-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1392
8-S&T_Low (Short-Recip-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1393
8-S&T_Low (Short-Recip-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1394
8-S&T_Low (Short-Recip-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1395
8-S&T_Low (Short-Recip-Sphere)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1396
8-S&T_Low (Short-Recip-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1397
8-S&T_Low (Short-Recip-Sphere)	2033_H2	Hydrogen (MMBtu/)	35707219.61	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1399
8-S&T_Low (Short-Recip-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1400
8-S&T_Low (Short-Recip-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1401
8-S&T_Low (Short-Recip-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1402
8-S&T_Low (Short-Recip-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1403
8-S&T_Low (Short-Recip-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1404
8-S&T_Low (Short-Recip-Sphere)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1405
8-S&T_Low (Short-Recip-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1406
8-S&T_Low (Short-Recip-Sphere)	2034_H2	Hydrogen (MMBtu/)	46561611.03	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1408
8-S&T_Low (Short-Recip-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1409
8-S&T_Low (Short-Recip-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1410
8-S&T_Low (Short-Recip-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1411
8-S&T_Low (Short-Recip-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1412
8-S&T_Low (Short-Recip-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1413
8-S&T_Low (Short-Recip-Sphere)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1414
8-S&T_Low (Short-Recip-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1415
8-S&T_Low (Short-Recip-Sphere)	2035_H2	Hydrogen (MMBtu/)	59735032.76	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1417
8-S&T_Low (Short-Recip-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1418
8-S&T_Low (Short-Recip-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1419
8-S&T_Low (Short-Recip-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1420
8-S&T_Low (Short-Recip-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1421
8-S&T_Low (Short-Recip-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1422
8-S&T_Low (Short-Recip-Sphere)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1423
8-S&T_Low (Short-Recip-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1424
8-S&T_Low (Short-Recip-Sphere)	2036_H2	Hydrogen (MMBtu/)	73422447.54	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1426
8-S&T_Low (Short-Recip-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1427
8-S&T_Low (Short-Recip-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1428
8-S&T_Low (Short-Recip-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1429
8-S&T_Low (Short-Recip-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1430
8-S&T_Low (Short-Recip-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1431

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
8-S&T_Low (Short-Recip-Sphere)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1432
8-S&T_Low (Short-Recip-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1433
8-S&T_Low (Short-Recip-Sphere)	2037_H2	Hydrogen (MMBtu/)	87074152.21	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1435
8-S&T_Low (Short-Recip-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1436
8-S&T_Low (Short-Recip-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1437
8-S&T_Low (Short-Recip-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1438
8-S&T_Low (Short-Recip-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1439
8-S&T_Low (Short-Recip-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1440
8-S&T_Low (Short-Recip-Sphere)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1441
8-S&T_Low (Short-Recip-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1442
8-S&T_Low (Short-Recip-Sphere)	2038_H2	Hydrogen (MMBtu/)	100699231.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1444
8-S&T_Low (Short-Recip-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1445
8-S&T_Low (Short-Recip-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1446
8-S&T_Low (Short-Recip-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1447
8-S&T_Low (Short-Recip-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1448
8-S&T_Low (Short-Recip-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1449
8-S&T_Low (Short-Recip-Sphere)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1450
8-S&T_Low (Short-Recip-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1451
8-S&T_Low (Short-Recip-Sphere)	2039_H2	Hydrogen (MMBtu/)	114375347.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1453
8-S&T_Low (Short-Recip-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1454
8-S&T_Low (Short-Recip-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1455
8-S&T_Low (Short-Recip-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1456
8-S&T_Low (Short-Recip-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1457
8-S&T_Low (Short-Recip-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1458
8-S&T_Low (Short-Recip-Sphere)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1459
8-S&T_Low (Short-Recip-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1460
8-S&T_Low (Short-Recip-Sphere)	2040_H2	Hydrogen (MMBtu/)	128276215.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1462
8-S&T_Low (Short-Recip-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1463
8-S&T_Low (Short-Recip-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1464
8-S&T_Low (Short-Recip-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1465
8-S&T_Low (Short-Recip-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1466
8-S&T_Low (Short-Recip-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1467
8-S&T_Low (Short-Recip-Sphere)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1468
8-S&T_Low (Short-Recip-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1469
8-S&T_Low (Short-Recip-Sphere)	2041_H2	Hydrogen (MMBtu/)	143683410.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1471
8-S&T_Low (Short-Recip-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1472
8-S&T_Low (Short-Recip-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1473
8-S&T_Low (Short-Recip-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1474

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
8-S&T_Low (Short-Recip-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1475
8-S&T_Low (Short-Recip-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1476
8-S&T_Low (Short-Recip-Sphere)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1477
8-S&T_Low (Short-Recip-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1478
8-S&T_Low (Short-Recip-Sphere)	2042_H2	Hydrogen (MMBtu/)	160384717.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1480
8-S&T_Low (Short-Recip-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1481
8-S&T_Low (Short-Recip-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1482
8-S&T_Low (Short-Recip-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1483
8-S&T_Low (Short-Recip-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1484
8-S&T_Low (Short-Recip-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1485
8-S&T_Low (Short-Recip-Sphere)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1486
8-S&T_Low (Short-Recip-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1487
8-S&T_Low (Short-Recip-Sphere)	2043_H2	Hydrogen (MMBtu/)	178390112.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1489
8-S&T_Low (Short-Recip-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1490
8-S&T_Low (Short-Recip-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1491
8-S&T_Low (Short-Recip-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1492
8-S&T_Low (Short-Recip-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1493
8-S&T_Low (Short-Recip-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1494
8-S&T_Low (Short-Recip-Sphere)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1495
8-S&T_Low (Short-Recip-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1496
8-S&T_Low (Short-Recip-Sphere)	2044_H2	Hydrogen (MMBtu/)	197651320.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1498
8-S&T_Low (Short-Recip-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1499
8-S&T_Low (Short-Recip-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1500
8-S&T_Low (Short-Recip-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1501
8-S&T_Low (Short-Recip-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1502
8-S&T_Low (Short-Recip-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1503
8-S&T_Low (Short-Recip-Sphere)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1504
8-S&T_Low (Short-Recip-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1505
8-S&T_Low (Short-Recip-Sphere)	2045_H2	Hydrogen (MMBtu/)	218158245.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1507
8-S&T_Low (Short-Recip-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1508
8-S&T_Low (Short-Recip-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1509
8-S&T_Low (Short-Recip-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1510
8-S&T_Low (Short-Recip-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1511
8-S&T_Low (Short-Recip-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1512
8-S&T_Low (Short-Recip-Sphere)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1513
8-S&T_Low (Short-Recip-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1514
9-S&T_Mid (Long-Turbine-UG)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1561
9-S&T_Mid (Long-Turbine-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1562

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9-S&T_Mid (Long-Turbine-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1563
9-S&T_Mid (Long-Turbine-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1564
9-S&T_Mid (Long-Turbine-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1565
9-S&T_Mid (Long-Turbine-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1566
9-S&T_Mid (Long-Turbine-UG)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1567
9-S&T_Mid (Long-Turbine-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1568
9-S&T_Mid (Long-Turbine-UG)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1570
9-S&T_Mid (Long-Turbine-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1571
9-S&T_Mid (Long-Turbine-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1572
9-S&T_Mid (Long-Turbine-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1573
9-S&T_Mid (Long-Turbine-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1574
9-S&T_Mid (Long-Turbine-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1575
9-S&T_Mid (Long-Turbine-UG)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1576
9-S&T_Mid (Long-Turbine-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1577
9-S&T_Mid (Long-Turbine-UG)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1579
9-S&T_Mid (Long-Turbine-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1580
9-S&T_Mid (Long-Turbine-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1581
9-S&T_Mid (Long-Turbine-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1582
9-S&T_Mid (Long-Turbine-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1583
9-S&T_Mid (Long-Turbine-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1584
9-S&T_Mid (Long-Turbine-UG)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1585
9-S&T_Mid (Long-Turbine-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1586
9-S&T_Mid (Long-Turbine-UG)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1588
9-S&T_Mid (Long-Turbine-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1589
9-S&T_Mid (Long-Turbine-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1590
9-S&T_Mid (Long-Turbine-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1591
9-S&T_Mid (Long-Turbine-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1592
9-S&T_Mid (Long-Turbine-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1593
9-S&T_Mid (Long-Turbine-UG)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1594
9-S&T_Mid (Long-Turbine-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1595
9-S&T_Mid (Long-Turbine-UG)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1597
9-S&T_Mid (Long-Turbine-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1598
9-S&T_Mid (Long-Turbine-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1599
9-S&T_Mid (Long-Turbine-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1600
9-S&T_Mid (Long-Turbine-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1601
9-S&T_Mid (Long-Turbine-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1602
9-S&T_Mid (Long-Turbine-UG)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1603
9-S&T_Mid (Long-Turbine-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1604

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9-S&T_Mid (Long-Turbine-UG)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1606
9-S&T_Mid (Long-Turbine-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1607
9-S&T_Mid (Long-Turbine-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1608
9-S&T_Mid (Long-Turbine-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1609
9-S&T_Mid (Long-Turbine-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1610
9-S&T_Mid (Long-Turbine-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1611
9-S&T_Mid (Long-Turbine-UG)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1612
9-S&T_Mid (Long-Turbine-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1613
9-S&T_Mid (Long-Turbine-UG)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1615
9-S&T_Mid (Long-Turbine-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1616
9-S&T_Mid (Long-Turbine-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1617
9-S&T_Mid (Long-Turbine-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1618
9-S&T_Mid (Long-Turbine-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1619
9-S&T_Mid (Long-Turbine-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1620
9-S&T_Mid (Long-Turbine-UG)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1621
9-S&T_Mid (Long-Turbine-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1622
9-S&T_Mid (Long-Turbine-UG)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1624
9-S&T_Mid (Long-Turbine-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1625
9-S&T_Mid (Long-Turbine-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1626
9-S&T_Mid (Long-Turbine-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1627
9-S&T_Mid (Long-Turbine-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1628
9-S&T_Mid (Long-Turbine-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1629
9-S&T_Mid (Long-Turbine-UG)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1630
9-S&T_Mid (Long-Turbine-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1631
9-S&T_Mid (Long-Turbine-UG)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1633
9-S&T_Mid (Long-Turbine-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1634
9-S&T_Mid (Long-Turbine-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1635
9-S&T_Mid (Long-Turbine-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1636
9-S&T_Mid (Long-Turbine-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1637
9-S&T_Mid (Long-Turbine-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1638
9-S&T_Mid (Long-Turbine-UG)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1639
9-S&T_Mid (Long-Turbine-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1640
9-S&T_Mid (Long-Turbine-UG)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1642
9-S&T_Mid (Long-Turbine-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1643
9-S&T_Mid (Long-Turbine-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1644
9-S&T_Mid (Long-Turbine-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1645
9-S&T_Mid (Long-Turbine-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1646
9-S&T_Mid (Long-Turbine-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1647

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9-S&T_Mid (Long-Turbine-UG)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1648
9-S&T_Mid (Long-Turbine-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1649
9-S&T_Mid (Long-Turbine-UG)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1651
9-S&T_Mid (Long-Turbine-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1652
9-S&T_Mid (Long-Turbine-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1653
9-S&T_Mid (Long-Turbine-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1654
9-S&T_Mid (Long-Turbine-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1655
9-S&T_Mid (Long-Turbine-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1656
9-S&T_Mid (Long-Turbine-UG)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1657
9-S&T_Mid (Long-Turbine-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1658
9-S&T_Mid (Long-Turbine-UG)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1660
9-S&T_Mid (Long-Turbine-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1661
9-S&T_Mid (Long-Turbine-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1662
9-S&T_Mid (Long-Turbine-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1663
9-S&T_Mid (Long-Turbine-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1664
9-S&T_Mid (Long-Turbine-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1665
9-S&T_Mid (Long-Turbine-UG)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1666
9-S&T_Mid (Long-Turbine-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1667
9-S&T_Mid (Long-Turbine-UG)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1669
9-S&T_Mid (Long-Turbine-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1670
9-S&T_Mid (Long-Turbine-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1671
9-S&T_Mid (Long-Turbine-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1672
9-S&T_Mid (Long-Turbine-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1673
9-S&T_Mid (Long-Turbine-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1674
9-S&T_Mid (Long-Turbine-UG)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1675
9-S&T_Mid (Long-Turbine-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1676
9-S&T_Mid (Long-Turbine-UG)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1678
9-S&T_Mid (Long-Turbine-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1679
9-S&T_Mid (Long-Turbine-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1680
9-S&T_Mid (Long-Turbine-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1681
9-S&T_Mid (Long-Turbine-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1682
9-S&T_Mid (Long-Turbine-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1683
9-S&T_Mid (Long-Turbine-UG)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1684
9-S&T_Mid (Long-Turbine-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1685
9-S&T_Mid (Long-Turbine-UG)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1687
9-S&T_Mid (Long-Turbine-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1688
9-S&T_Mid (Long-Turbine-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1689
9-S&T_Mid (Long-Turbine-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1690

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
9-S&T_Mid (Long-Turbine-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1691
9-S&T_Mid (Long-Turbine-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1692
9-S&T_Mid (Long-Turbine-UG)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1693
9-S&T_Mid (Long-Turbine-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1694
9-S&T_Mid (Long-Turbine-UG)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1696
9-S&T_Mid (Long-Turbine-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1697
9-S&T_Mid (Long-Turbine-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1698
9-S&T_Mid (Long-Turbine-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1699
9-S&T_Mid (Long-Turbine-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1700
9-S&T_Mid (Long-Turbine-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1701
9-S&T_Mid (Long-Turbine-UG)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1702
9-S&T_Mid (Long-Turbine-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1703
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1750
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1751
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1752
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1753
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1754
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1755
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1756
10-S&T_Mid (Long-Turbine-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1757
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1759
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1760
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1761
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1762
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1763
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1764
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1765
10-S&T_Mid (Long-Turbine-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1766
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1768
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1769
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1770
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1771
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1772
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1773
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1774
10-S&T_Mid (Long-Turbine-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1775
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1777
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1778

Tab Contents

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1779
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1780
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1781
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1782
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1783
10-S&T_Mid (Long-Turbine-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1784
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1786
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1787
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1788
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1789
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1790
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1791
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1792
10-S&T_Mid (Long-Turbine-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1793
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1795
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1796
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1797
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1798
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1799
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1800
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1801
10-S&T_Mid (Long-Turbine-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1802
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1804
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1805
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1806
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1807
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1808
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1809
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1810
10-S&T_Mid (Long-Turbine-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1811
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1813
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1814
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1815
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1816
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1817
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1818
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1819
10-S&T_Mid (Long-Turbine-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1820

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1822
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1823
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1824
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1825
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1826
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1827
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1828
10-S&T_Mid (Long-Turbine-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1829
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1831
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1832
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1833
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1834
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1835
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1836
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1837
10-S&T_Mid (Long-Turbine-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1838
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1840
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1841
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1842
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1843
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1844
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1845
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1846
10-S&T_Mid (Long-Turbine-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1847
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1849
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1850
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1851
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1852
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1853
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1854
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1855
10-S&T_Mid (Long-Turbine-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1856
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1858
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1859
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1860
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1861
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1862
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1863

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1864
10-S&T_Mid (Long-Turbine-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1865
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1867
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1868
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1869
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1870
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1871
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1872
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1873
10-S&T_Mid (Long-Turbine-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1874
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1876
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1877
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1878
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1879
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1880
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1881
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1882
10-S&T_Mid (Long-Turbine-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1883
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1885
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1886
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1887
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1888
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1889
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1890
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1891
10-S&T_Mid (Long-Turbine-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1892
11-S&T_Mid (Long-Recip-UG)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1939
11-S&T_Mid (Long-Recip-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1940
11-S&T_Mid (Long-Recip-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1941
11-S&T_Mid (Long-Recip-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1942
11-S&T_Mid (Long-Recip-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1943
11-S&T_Mid (Long-Recip-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1944
11-S&T_Mid (Long-Recip-UG)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1945
11-S&T_Mid (Long-Recip-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1946
11-S&T_Mid (Long-Recip-UG)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1948
11-S&T_Mid (Long-Recip-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1949
11-S&T_Mid (Long-Recip-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1950
11-S&T_Mid (Long-Recip-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1951

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
11-S&T_Mid (Long-Recip-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1952
11-S&T_Mid (Long-Recip-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1953
11-S&T_Mid (Long-Recip-UG)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1954
11-S&T_Mid (Long-Recip-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1955
11-S&T_Mid (Long-Recip-UG)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1957
11-S&T_Mid (Long-Recip-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1958
11-S&T_Mid (Long-Recip-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1959
11-S&T_Mid (Long-Recip-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1960
11-S&T_Mid (Long-Recip-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1961
11-S&T_Mid (Long-Recip-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1962
11-S&T_Mid (Long-Recip-UG)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1963
11-S&T_Mid (Long-Recip-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1964
11-S&T_Mid (Long-Recip-UG)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1966
11-S&T_Mid (Long-Recip-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1967
11-S&T_Mid (Long-Recip-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1968
11-S&T_Mid (Long-Recip-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1969
11-S&T_Mid (Long-Recip-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1970
11-S&T_Mid (Long-Recip-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1971
11-S&T_Mid (Long-Recip-UG)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1972
11-S&T_Mid (Long-Recip-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1973
11-S&T_Mid (Long-Recip-UG)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1975
11-S&T_Mid (Long-Recip-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1976
11-S&T_Mid (Long-Recip-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1977
11-S&T_Mid (Long-Recip-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1978
11-S&T_Mid (Long-Recip-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1979
11-S&T_Mid (Long-Recip-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1980
11-S&T_Mid (Long-Recip-UG)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1981
11-S&T_Mid (Long-Recip-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1982
11-S&T_Mid (Long-Recip-UG)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1984
11-S&T_Mid (Long-Recip-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1985
11-S&T_Mid (Long-Recip-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1986
11-S&T_Mid (Long-Recip-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1987
11-S&T_Mid (Long-Recip-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1988
11-S&T_Mid (Long-Recip-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1989
11-S&T_Mid (Long-Recip-UG)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1990
11-S&T_Mid (Long-Recip-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1991
11-S&T_Mid (Long-Recip-UG)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1993
11-S&T_Mid (Long-Recip-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1994

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
11-S&T_Mid (Long-Recip-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1995
11-S&T_Mid (Long-Recip-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1996
11-S&T_Mid (Long-Recip-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1997
11-S&T_Mid (Long-Recip-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1998
11-S&T_Mid (Long-Recip-UG)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1999
11-S&T_Mid (Long-Recip-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2000
11-S&T_Mid (Long-Recip-UG)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2002
11-S&T_Mid (Long-Recip-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2003
11-S&T_Mid (Long-Recip-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2004
11-S&T_Mid (Long-Recip-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2005
11-S&T_Mid (Long-Recip-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2006
11-S&T_Mid (Long-Recip-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2007
11-S&T_Mid (Long-Recip-UG)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2008
11-S&T_Mid (Long-Recip-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2009
11-S&T_Mid (Long-Recip-UG)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2011
11-S&T_Mid (Long-Recip-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2012
11-S&T_Mid (Long-Recip-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2013
11-S&T_Mid (Long-Recip-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2014
11-S&T_Mid (Long-Recip-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2015
11-S&T_Mid (Long-Recip-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2016
11-S&T_Mid (Long-Recip-UG)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2017
11-S&T_Mid (Long-Recip-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2018
11-S&T_Mid (Long-Recip-UG)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2020
11-S&T_Mid (Long-Recip-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2021
11-S&T_Mid (Long-Recip-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2022
11-S&T_Mid (Long-Recip-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2023
11-S&T_Mid (Long-Recip-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2024
11-S&T_Mid (Long-Recip-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2025
11-S&T_Mid (Long-Recip-UG)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2026
11-S&T_Mid (Long-Recip-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2027
11-S&T_Mid (Long-Recip-UG)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2029
11-S&T_Mid (Long-Recip-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2030
11-S&T_Mid (Long-Recip-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2031
11-S&T_Mid (Long-Recip-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2032
11-S&T_Mid (Long-Recip-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2033
11-S&T_Mid (Long-Recip-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2034
11-S&T_Mid (Long-Recip-UG)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2035
11-S&T_Mid (Long-Recip-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2036

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
11-S&T_Mid (Long-Recip-UG)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2038
11-S&T_Mid (Long-Recip-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2039
11-S&T_Mid (Long-Recip-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2040
11-S&T_Mid (Long-Recip-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2041
11-S&T_Mid (Long-Recip-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2042
11-S&T_Mid (Long-Recip-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2043
11-S&T_Mid (Long-Recip-UG)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2044
11-S&T_Mid (Long-Recip-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2045
11-S&T_Mid (Long-Recip-UG)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2047
11-S&T_Mid (Long-Recip-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2048
11-S&T_Mid (Long-Recip-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2049
11-S&T_Mid (Long-Recip-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2050
11-S&T_Mid (Long-Recip-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2051
11-S&T_Mid (Long-Recip-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2052
11-S&T_Mid (Long-Recip-UG)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2053
11-S&T_Mid (Long-Recip-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2054
11-S&T_Mid (Long-Recip-UG)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2056
11-S&T_Mid (Long-Recip-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2057
11-S&T_Mid (Long-Recip-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2058
11-S&T_Mid (Long-Recip-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2059
11-S&T_Mid (Long-Recip-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2060
11-S&T_Mid (Long-Recip-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2061
11-S&T_Mid (Long-Recip-UG)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2062
11-S&T_Mid (Long-Recip-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2063
11-S&T_Mid (Long-Recip-UG)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2065
11-S&T_Mid (Long-Recip-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2066
11-S&T_Mid (Long-Recip-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2067
11-S&T_Mid (Long-Recip-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2068
11-S&T_Mid (Long-Recip-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2069
11-S&T_Mid (Long-Recip-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2070
11-S&T_Mid (Long-Recip-UG)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2071
11-S&T_Mid (Long-Recip-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2072
11-S&T_Mid (Long-Recip-UG)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2074
11-S&T_Mid (Long-Recip-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2075
11-S&T_Mid (Long-Recip-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2076
11-S&T_Mid (Long-Recip-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2077
11-S&T_Mid (Long-Recip-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2078
11-S&T_Mid (Long-Recip-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2079

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	Fuel Type	Parameter	Value	Reference
11-S&T_Mid (Long-Recip-UG)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2080
11-S&T_Mid (Long-Recip-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2081
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2128
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2129
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2130
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2131
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2132
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2133
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2134
12-S&T_Mid (Long-Recip-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2135
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2137
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2138
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2139
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2140
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2141
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2142
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2143
12-S&T_Mid (Long-Recip-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2144
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2146
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2147
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2148
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2149
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2150
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2151
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2152
12-S&T_Mid (Long-Recip-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2153
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2155
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2156
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2157
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2158
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2159
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2160
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2161
12-S&T_Mid (Long-Recip-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2162
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2164
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2165
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2166
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2167

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2168
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2169
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2170
12-S&T_Mid (Long-Recip-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2171
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2173
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2174
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2175
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2176
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2177
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2178
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2179
12-S&T_Mid (Long-Recip-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2180
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2182
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2183
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2184
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2185
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2186
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2187
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2188
12-S&T_Mid (Long-Recip-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2189
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2191
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2192
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2193
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2194
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2195
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2196
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2197
12-S&T_Mid (Long-Recip-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2198
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2200
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2201
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2202
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2203
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2204
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2205
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2206
12-S&T_Mid (Long-Recip-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2207
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2209
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2210

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2211
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2212
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2213
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2214
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2215
12-S&T_Mid (Long-Recip-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2216
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2218
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2219
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2220
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2221
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2222
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2223
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2224
12-S&T_Mid (Long-Recip-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2225
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2227
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2228
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2229
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2230
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2231
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2232
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2233
12-S&T_Mid (Long-Recip-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2234
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2236
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2237
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2238
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2239
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2240
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2241
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2242
12-S&T_Mid (Long-Recip-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2243
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2245
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2246
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2247
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2248
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2249
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2250
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2251
12-S&T_Mid (Long-Recip-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2252

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2254
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2255
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2256
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2257
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2258
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2259
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2260
12-S&T_Mid (Long-Recip-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2261
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2263
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2264
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2265
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2266
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2267
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2268
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2269
12-S&T_Mid (Long-Recip-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2270
13-S&T_Mid (Short-Turbine-UG)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2317
13-S&T_Mid (Short-Turbine-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2318
13-S&T_Mid (Short-Turbine-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2319
13-S&T_Mid (Short-Turbine-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2320
13-S&T_Mid (Short-Turbine-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2321
13-S&T_Mid (Short-Turbine-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2322
13-S&T_Mid (Short-Turbine-UG)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2323
13-S&T_Mid (Short-Turbine-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2324
13-S&T_Mid (Short-Turbine-UG)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2326
13-S&T_Mid (Short-Turbine-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2327
13-S&T_Mid (Short-Turbine-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2328
13-S&T_Mid (Short-Turbine-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2329
13-S&T_Mid (Short-Turbine-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2330
13-S&T_Mid (Short-Turbine-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2331
13-S&T_Mid (Short-Turbine-UG)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2332
13-S&T_Mid (Short-Turbine-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2333
13-S&T_Mid (Short-Turbine-UG)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2335
13-S&T_Mid (Short-Turbine-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2336
13-S&T_Mid (Short-Turbine-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2337
13-S&T_Mid (Short-Turbine-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2338
13-S&T_Mid (Short-Turbine-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2339
13-S&T_Mid (Short-Turbine-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2340

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
13-S&T_Mid (Short-Turbine-UG)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2341
13-S&T_Mid (Short-Turbine-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2342
13-S&T_Mid (Short-Turbine-UG)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2344
13-S&T_Mid (Short-Turbine-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2345
13-S&T_Mid (Short-Turbine-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2346
13-S&T_Mid (Short-Turbine-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2347
13-S&T_Mid (Short-Turbine-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2348
13-S&T_Mid (Short-Turbine-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2349
13-S&T_Mid (Short-Turbine-UG)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2350
13-S&T_Mid (Short-Turbine-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2351
13-S&T_Mid (Short-Turbine-UG)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2353
13-S&T_Mid (Short-Turbine-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2354
13-S&T_Mid (Short-Turbine-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2355
13-S&T_Mid (Short-Turbine-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2356
13-S&T_Mid (Short-Turbine-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2357
13-S&T_Mid (Short-Turbine-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2358
13-S&T_Mid (Short-Turbine-UG)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2359
13-S&T_Mid (Short-Turbine-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2360
13-S&T_Mid (Short-Turbine-UG)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2362
13-S&T_Mid (Short-Turbine-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2363
13-S&T_Mid (Short-Turbine-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2364
13-S&T_Mid (Short-Turbine-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2365
13-S&T_Mid (Short-Turbine-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2366
13-S&T_Mid (Short-Turbine-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2367
13-S&T_Mid (Short-Turbine-UG)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2368
13-S&T_Mid (Short-Turbine-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2369
13-S&T_Mid (Short-Turbine-UG)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2371
13-S&T_Mid (Short-Turbine-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2372
13-S&T_Mid (Short-Turbine-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2373
13-S&T_Mid (Short-Turbine-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2374
13-S&T_Mid (Short-Turbine-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2375
13-S&T_Mid (Short-Turbine-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2376
13-S&T_Mid (Short-Turbine-UG)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2377
13-S&T_Mid (Short-Turbine-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2378
13-S&T_Mid (Short-Turbine-UG)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2380
13-S&T_Mid (Short-Turbine-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2381
13-S&T_Mid (Short-Turbine-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2382
13-S&T_Mid (Short-Turbine-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2383

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
13-S&T_Mid (Short-Turbine-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2384
13-S&T_Mid (Short-Turbine-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2385
13-S&T_Mid (Short-Turbine-UG)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2386
13-S&T_Mid (Short-Turbine-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2387
13-S&T_Mid (Short-Turbine-UG)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2389
13-S&T_Mid (Short-Turbine-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2390
13-S&T_Mid (Short-Turbine-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2391
13-S&T_Mid (Short-Turbine-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2392
13-S&T_Mid (Short-Turbine-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2393
13-S&T_Mid (Short-Turbine-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2394
13-S&T_Mid (Short-Turbine-UG)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2395
13-S&T_Mid (Short-Turbine-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2396
13-S&T_Mid (Short-Turbine-UG)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2398
13-S&T_Mid (Short-Turbine-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2399
13-S&T_Mid (Short-Turbine-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2400
13-S&T_Mid (Short-Turbine-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2401
13-S&T_Mid (Short-Turbine-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2402
13-S&T_Mid (Short-Turbine-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2403
13-S&T_Mid (Short-Turbine-UG)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2404
13-S&T_Mid (Short-Turbine-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2405
13-S&T_Mid (Short-Turbine-UG)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2407
13-S&T_Mid (Short-Turbine-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2408
13-S&T_Mid (Short-Turbine-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2409
13-S&T_Mid (Short-Turbine-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2410
13-S&T_Mid (Short-Turbine-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2411
13-S&T_Mid (Short-Turbine-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2412
13-S&T_Mid (Short-Turbine-UG)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2413
13-S&T_Mid (Short-Turbine-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2414
13-S&T_Mid (Short-Turbine-UG)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2416
13-S&T_Mid (Short-Turbine-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2417
13-S&T_Mid (Short-Turbine-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2418
13-S&T_Mid (Short-Turbine-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2419
13-S&T_Mid (Short-Turbine-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2420
13-S&T_Mid (Short-Turbine-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2421
13-S&T_Mid (Short-Turbine-UG)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2422
13-S&T_Mid (Short-Turbine-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2423
13-S&T_Mid (Short-Turbine-UG)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2425
13-S&T_Mid (Short-Turbine-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2426

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
13-S&T_Mid (Short-Turbine-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2427
13-S&T_Mid (Short-Turbine-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2428
13-S&T_Mid (Short-Turbine-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2429
13-S&T_Mid (Short-Turbine-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2430
13-S&T_Mid (Short-Turbine-UG)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2431
13-S&T_Mid (Short-Turbine-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2432
13-S&T_Mid (Short-Turbine-UG)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2434
13-S&T_Mid (Short-Turbine-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2435
13-S&T_Mid (Short-Turbine-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2436
13-S&T_Mid (Short-Turbine-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2437
13-S&T_Mid (Short-Turbine-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2438
13-S&T_Mid (Short-Turbine-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2439
13-S&T_Mid (Short-Turbine-UG)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2440
13-S&T_Mid (Short-Turbine-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2441
13-S&T_Mid (Short-Turbine-UG)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2443
13-S&T_Mid (Short-Turbine-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2444
13-S&T_Mid (Short-Turbine-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2445
13-S&T_Mid (Short-Turbine-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2446
13-S&T_Mid (Short-Turbine-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2447
13-S&T_Mid (Short-Turbine-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2448
13-S&T_Mid (Short-Turbine-UG)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2449
13-S&T_Mid (Short-Turbine-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2450
13-S&T_Mid (Short-Turbine-UG)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2452
13-S&T_Mid (Short-Turbine-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2453
13-S&T_Mid (Short-Turbine-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2454
13-S&T_Mid (Short-Turbine-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2455
13-S&T_Mid (Short-Turbine-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2456
13-S&T_Mid (Short-Turbine-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2457
13-S&T_Mid (Short-Turbine-UG)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2458
13-S&T_Mid (Short-Turbine-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2459
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2506
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2507
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2508
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2509
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2510
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2511
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2512
14-S&T_Mid (Short-Turbine-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2513

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2515
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2516
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2517
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2518
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2519
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2520
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2521
14-S&T_Mid (Short-Turbine-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2522
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2524
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2525
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2526
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2527
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2528
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2529
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2530
14-S&T_Mid (Short-Turbine-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2531
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2533
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2534
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2535
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2536
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2537
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2538
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2539
14-S&T_Mid (Short-Turbine-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2540
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2542
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2543
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2544
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2545
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2546
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2547
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2548
14-S&T_Mid (Short-Turbine-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2549
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2551
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2552
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2553
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2554
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2555
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2556

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2557
14-S&T_Mid (Short-Turbine-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2558
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2560
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2561
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2562
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2563
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2564
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2565
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2566
14-S&T_Mid (Short-Turbine-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2567
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2569
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2570
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2571
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2572
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2573
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2574
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2575
14-S&T_Mid (Short-Turbine-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2576
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2578
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2579
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2580
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2581
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2582
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2583
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2584
14-S&T_Mid (Short-Turbine-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2585
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2587
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2588
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2589
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2590
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2591
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2592
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2593
14-S&T_Mid (Short-Turbine-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2594
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2596
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2597
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2598
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2599

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2600
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2601
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2602
14-S&T_Mid (Short-Turbine-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2603
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2605
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2606
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2607
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2608
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2609
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2610
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2611
14-S&T_Mid (Short-Turbine-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2612
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2614
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2615
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2616
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2617
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2618
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2619
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2620
14-S&T_Mid (Short-Turbine-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2621
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2623
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2624
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2625
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2626
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2627
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2628
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2629
14-S&T_Mid (Short-Turbine-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2630
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2632
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2633
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2634
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2635
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2636
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2637
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2638
14-S&T_Mid (Short-Turbine-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2639
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2641
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2642

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2643
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2644
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2645
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2646
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2647
14-S&T_Mid (Short-Turbine-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2648
15-S&T_Mid (Short-Recip-UG)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2695
15-S&T_Mid (Short-Recip-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2696
15-S&T_Mid (Short-Recip-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2697
15-S&T_Mid (Short-Recip-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2698
15-S&T_Mid (Short-Recip-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2699
15-S&T_Mid (Short-Recip-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2700
15-S&T_Mid (Short-Recip-UG)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2701
15-S&T_Mid (Short-Recip-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2702
15-S&T_Mid (Short-Recip-UG)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2704
15-S&T_Mid (Short-Recip-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2705
15-S&T_Mid (Short-Recip-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2706
15-S&T_Mid (Short-Recip-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2707
15-S&T_Mid (Short-Recip-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2708
15-S&T_Mid (Short-Recip-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2709
15-S&T_Mid (Short-Recip-UG)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2710
15-S&T_Mid (Short-Recip-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2711
15-S&T_Mid (Short-Recip-UG)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2713
15-S&T_Mid (Short-Recip-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2714
15-S&T_Mid (Short-Recip-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2715
15-S&T_Mid (Short-Recip-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2716
15-S&T_Mid (Short-Recip-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2717
15-S&T_Mid (Short-Recip-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2718
15-S&T_Mid (Short-Recip-UG)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2719
15-S&T_Mid (Short-Recip-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2720
15-S&T_Mid (Short-Recip-UG)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2722
15-S&T_Mid (Short-Recip-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2723
15-S&T_Mid (Short-Recip-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2724
15-S&T_Mid (Short-Recip-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2725
15-S&T_Mid (Short-Recip-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2726
15-S&T_Mid (Short-Recip-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2727
15-S&T_Mid (Short-Recip-UG)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2728
15-S&T_Mid (Short-Recip-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2729

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	***Fuel Type***	***Parameter***	**Value**	**Reference**
15-S&T_Mid (Short-Recip-UG)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2731
15-S&T_Mid (Short-Recip-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2732
15-S&T_Mid (Short-Recip-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2733
15-S&T_Mid (Short-Recip-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2734
15-S&T_Mid (Short-Recip-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2735
15-S&T_Mid (Short-Recip-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2736
15-S&T_Mid (Short-Recip-UG)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2737
15-S&T_Mid (Short-Recip-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2738
15-S&T_Mid (Short-Recip-UG)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2740
15-S&T_Mid (Short-Recip-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2741
15-S&T_Mid (Short-Recip-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2742
15-S&T_Mid (Short-Recip-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2743
15-S&T_Mid (Short-Recip-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2744
15-S&T_Mid (Short-Recip-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2745
15-S&T_Mid (Short-Recip-UG)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2746
15-S&T_Mid (Short-Recip-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2747
15-S&T_Mid (Short-Recip-UG)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2749
15-S&T_Mid (Short-Recip-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2750
15-S&T_Mid (Short-Recip-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2751
15-S&T_Mid (Short-Recip-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2752
15-S&T_Mid (Short-Recip-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2753
15-S&T_Mid (Short-Recip-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2754
15-S&T_Mid (Short-Recip-UG)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2755
15-S&T_Mid (Short-Recip-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2756
15-S&T_Mid (Short-Recip-UG)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2758
15-S&T_Mid (Short-Recip-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2759
15-S&T_Mid (Short-Recip-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2760
15-S&T_Mid (Short-Recip-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2761
15-S&T_Mid (Short-Recip-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2762
15-S&T_Mid (Short-Recip-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2763
15-S&T_Mid (Short-Recip-UG)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2764
15-S&T_Mid (Short-Recip-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2765
15-S&T_Mid (Short-Recip-UG)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2767
15-S&T_Mid (Short-Recip-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2768
15-S&T_Mid (Short-Recip-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2769
15-S&T_Mid (Short-Recip-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2770
15-S&T_Mid (Short-Recip-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2771
15-S&T_Mid (Short-Recip-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2772

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
15-S&T_Mid (Short-Recip-UG)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2773
15-S&T_Mid (Short-Recip-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2774
15-S&T_Mid (Short-Recip-UG)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2776
15-S&T_Mid (Short-Recip-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2777
15-S&T_Mid (Short-Recip-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2778
15-S&T_Mid (Short-Recip-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2779
15-S&T_Mid (Short-Recip-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2780
15-S&T_Mid (Short-Recip-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2781
15-S&T_Mid (Short-Recip-UG)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2782
15-S&T_Mid (Short-Recip-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2783
15-S&T_Mid (Short-Recip-UG)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2785
15-S&T_Mid (Short-Recip-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2786
15-S&T_Mid (Short-Recip-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2787
15-S&T_Mid (Short-Recip-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2788
15-S&T_Mid (Short-Recip-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2789
15-S&T_Mid (Short-Recip-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2790
15-S&T_Mid (Short-Recip-UG)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2791
15-S&T_Mid (Short-Recip-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2792
15-S&T_Mid (Short-Recip-UG)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2794
15-S&T_Mid (Short-Recip-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2795
15-S&T_Mid (Short-Recip-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2796
15-S&T_Mid (Short-Recip-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2797
15-S&T_Mid (Short-Recip-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2798
15-S&T_Mid (Short-Recip-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2799
15-S&T_Mid (Short-Recip-UG)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2800
15-S&T_Mid (Short-Recip-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2801
15-S&T_Mid (Short-Recip-UG)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2803
15-S&T_Mid (Short-Recip-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2804
15-S&T_Mid (Short-Recip-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2805
15-S&T_Mid (Short-Recip-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2806
15-S&T_Mid (Short-Recip-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2807
15-S&T_Mid (Short-Recip-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2808
15-S&T_Mid (Short-Recip-UG)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2809
15-S&T_Mid (Short-Recip-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2810
15-S&T_Mid (Short-Recip-UG)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2812
15-S&T_Mid (Short-Recip-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2813
15-S&T_Mid (Short-Recip-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2814
15-S&T_Mid (Short-Recip-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2815

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
15-S&T_Mid (Short-Recip-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2816
15-S&T_Mid (Short-Recip-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2817
15-S&T_Mid (Short-Recip-UG)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2818
15-S&T_Mid (Short-Recip-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2819
15-S&T_Mid (Short-Recip-UG)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2821
15-S&T_Mid (Short-Recip-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2822
15-S&T_Mid (Short-Recip-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2823
15-S&T_Mid (Short-Recip-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2824
15-S&T_Mid (Short-Recip-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2825
15-S&T_Mid (Short-Recip-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2826
15-S&T_Mid (Short-Recip-UG)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2827
15-S&T_Mid (Short-Recip-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2828
15-S&T_Mid (Short-Recip-UG)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2830
15-S&T_Mid (Short-Recip-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2831
15-S&T_Mid (Short-Recip-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2832
15-S&T_Mid (Short-Recip-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2833
15-S&T_Mid (Short-Recip-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2834
15-S&T_Mid (Short-Recip-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2835
15-S&T_Mid (Short-Recip-UG)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2836
15-S&T_Mid (Short-Recip-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2837
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	Hydrogen (MMBtu/)	32394468.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2884
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2885
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2886
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2887
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2888
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2889
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2890
16-S&T_Mid (Short-Recip-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2891
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	Hydrogen (MMBtu/)	41292519.53	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2893
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2894
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2895
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2896
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2897
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2898
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2899
16-S&T_Mid (Short-Recip-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2900
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	Hydrogen (MMBtu/)	52582755.23	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2902
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2903

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2904
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2905
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2906
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2907
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2908
16-S&T_Mid (Short-Recip-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2909
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	Hydrogen (MMBtu/)	66333697.07	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2911
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2912
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2913
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2914
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2915
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2916
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2917
16-S&T_Mid (Short-Recip-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2918
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	Hydrogen (MMBtu/)	82842546.75	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2920
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2921
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2922
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2923
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2924
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2925
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2926
16-S&T_Mid (Short-Recip-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2927
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	Hydrogen (MMBtu/)	102244522.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2929
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2930
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2931
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2932
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2933
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2934
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2935
16-S&T_Mid (Short-Recip-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2936
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	Hydrogen (MMBtu/)	122832229.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2938
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2939
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2940
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2941
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2942
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2943
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2944
16-S&T_Mid (Short-Recip-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2945

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	Hydrogen (MMBtu/)	144191023	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2947
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2948
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2949
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2950
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2951
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2952
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2953
16-S&T_Mid (Short-Recip-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2954
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	Hydrogen (MMBtu/)	165952404.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2956
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2957
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2958
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2959
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2960
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2961
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2962
16-S&T_Mid (Short-Recip-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2963
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	Hydrogen (MMBtu/)	188331988.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2965
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2966
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2967
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2968
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2969
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2970
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2971
16-S&T_Mid (Short-Recip-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2972
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	Hydrogen (MMBtu/)	211611166.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2974
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2975
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2976
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2977
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2978
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2979
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2980
16-S&T_Mid (Short-Recip-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2981
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	Hydrogen (MMBtu/)	237174477.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2983
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2984
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2985
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2986
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2987
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2988

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Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2989
16-S&T_Mid (Short-Recip-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2990
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	Hydrogen (MMBtu/)	264300900.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2992
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2993
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2994
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2995
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2996
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2997
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2998
16-S&T_Mid (Short-Recip-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2999
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	Hydrogen (MMBtu/)	293070542.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3001
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3002
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3003
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3004
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3005
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3006
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3007
16-S&T_Mid (Short-Recip-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3008
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	Hydrogen (MMBtu/)	323447348.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3010
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3011
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3012
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3013
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3014
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3015
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3016
16-S&T_Mid (Short-Recip-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3017
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	Hydrogen (MMBtu/)	355381942.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3019
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3020
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3021
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3022
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3023
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3024
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3025
16-S&T_Mid (Short-Recip-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3026
17-S&T_High (Long-Turbine-UG)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3073
17-S&T_High (Long-Turbine-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3074
17-S&T_High (Long-Turbine-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3075
17-S&T_High (Long-Turbine-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3076

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17-S&T_High (Long-Turbine-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3077
17-S&T_High (Long-Turbine-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3078
17-S&T_High (Long-Turbine-UG)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3079
17-S&T_High (Long-Turbine-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3080
17-S&T_High (Long-Turbine-UG)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3082
17-S&T_High (Long-Turbine-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3083
17-S&T_High (Long-Turbine-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3084
17-S&T_High (Long-Turbine-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3085
17-S&T_High (Long-Turbine-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3086
17-S&T_High (Long-Turbine-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3087
17-S&T_High (Long-Turbine-UG)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3088
17-S&T_High (Long-Turbine-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3089
17-S&T_High (Long-Turbine-UG)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3091
17-S&T_High (Long-Turbine-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3092
17-S&T_High (Long-Turbine-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3093
17-S&T_High (Long-Turbine-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3094
17-S&T_High (Long-Turbine-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3095
17-S&T_High (Long-Turbine-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3096
17-S&T_High (Long-Turbine-UG)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3097
17-S&T_High (Long-Turbine-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3098
17-S&T_High (Long-Turbine-UG)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3100
17-S&T_High (Long-Turbine-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3101
17-S&T_High (Long-Turbine-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3102
17-S&T_High (Long-Turbine-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3103
17-S&T_High (Long-Turbine-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3104
17-S&T_High (Long-Turbine-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3105
17-S&T_High (Long-Turbine-UG)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3106
17-S&T_High (Long-Turbine-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3107
17-S&T_High (Long-Turbine-UG)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3109
17-S&T_High (Long-Turbine-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3110
17-S&T_High (Long-Turbine-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3111
17-S&T_High (Long-Turbine-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3112
17-S&T_High (Long-Turbine-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3113
17-S&T_High (Long-Turbine-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3114
17-S&T_High (Long-Turbine-UG)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3115
17-S&T_High (Long-Turbine-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3116
17-S&T_High (Long-Turbine-UG)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3118
17-S&T_High (Long-Turbine-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3119

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17-S&T_High (Long-Turbine-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3120
17-S&T_High (Long-Turbine-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3121
17-S&T_High (Long-Turbine-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3122
17-S&T_High (Long-Turbine-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3123
17-S&T_High (Long-Turbine-UG)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3124
17-S&T_High (Long-Turbine-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3125
17-S&T_High (Long-Turbine-UG)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3127
17-S&T_High (Long-Turbine-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3128
17-S&T_High (Long-Turbine-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3129
17-S&T_High (Long-Turbine-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3130
17-S&T_High (Long-Turbine-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3131
17-S&T_High (Long-Turbine-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3132
17-S&T_High (Long-Turbine-UG)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3133
17-S&T_High (Long-Turbine-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3134
17-S&T_High (Long-Turbine-UG)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3136
17-S&T_High (Long-Turbine-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3137
17-S&T_High (Long-Turbine-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3138
17-S&T_High (Long-Turbine-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3139
17-S&T_High (Long-Turbine-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3140
17-S&T_High (Long-Turbine-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3141
17-S&T_High (Long-Turbine-UG)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3142
17-S&T_High (Long-Turbine-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3143
17-S&T_High (Long-Turbine-UG)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3145
17-S&T_High (Long-Turbine-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3146
17-S&T_High (Long-Turbine-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3147
17-S&T_High (Long-Turbine-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3148
17-S&T_High (Long-Turbine-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3149
17-S&T_High (Long-Turbine-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3150
17-S&T_High (Long-Turbine-UG)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3151
17-S&T_High (Long-Turbine-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3152
17-S&T_High (Long-Turbine-UG)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3154
17-S&T_High (Long-Turbine-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3155
17-S&T_High (Long-Turbine-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3156
17-S&T_High (Long-Turbine-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3157
17-S&T_High (Long-Turbine-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3158
17-S&T_High (Long-Turbine-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3159
17-S&T_High (Long-Turbine-UG)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3160
17-S&T_High (Long-Turbine-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3161

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17-S&T_High (Long-Turbine-UG)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3163
17-S&T_High (Long-Turbine-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3164
17-S&T_High (Long-Turbine-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3165
17-S&T_High (Long-Turbine-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3166
17-S&T_High (Long-Turbine-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3167
17-S&T_High (Long-Turbine-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3168
17-S&T_High (Long-Turbine-UG)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3169
17-S&T_High (Long-Turbine-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3170
17-S&T_High (Long-Turbine-UG)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3172
17-S&T_High (Long-Turbine-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3173
17-S&T_High (Long-Turbine-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3174
17-S&T_High (Long-Turbine-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3175
17-S&T_High (Long-Turbine-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3176
17-S&T_High (Long-Turbine-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3177
17-S&T_High (Long-Turbine-UG)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3178
17-S&T_High (Long-Turbine-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3179
17-S&T_High (Long-Turbine-UG)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3181
17-S&T_High (Long-Turbine-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3182
17-S&T_High (Long-Turbine-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3183
17-S&T_High (Long-Turbine-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3184
17-S&T_High (Long-Turbine-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3185
17-S&T_High (Long-Turbine-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3186
17-S&T_High (Long-Turbine-UG)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3187
17-S&T_High (Long-Turbine-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3188
17-S&T_High (Long-Turbine-UG)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3190
17-S&T_High (Long-Turbine-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3191
17-S&T_High (Long-Turbine-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3192
17-S&T_High (Long-Turbine-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3193
17-S&T_High (Long-Turbine-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3194
17-S&T_High (Long-Turbine-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3195
17-S&T_High (Long-Turbine-UG)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3196
17-S&T_High (Long-Turbine-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3197
17-S&T_High (Long-Turbine-UG)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3199
17-S&T_High (Long-Turbine-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3200
17-S&T_High (Long-Turbine-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3201
17-S&T_High (Long-Turbine-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3202
17-S&T_High (Long-Turbine-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3203
17-S&T_High (Long-Turbine-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3204

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
17-S&T_High (Long-Turbine-UG)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3205
17-S&T_High (Long-Turbine-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3206
17-S&T_High (Long-Turbine-UG)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3208
17-S&T_High (Long-Turbine-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3209
17-S&T_High (Long-Turbine-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3210
17-S&T_High (Long-Turbine-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3211
17-S&T_High (Long-Turbine-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3212
17-S&T_High (Long-Turbine-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3213
17-S&T_High (Long-Turbine-UG)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3214
17-S&T_High (Long-Turbine-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3215
18-S&T_High (Long-Turbine-Sphere)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3262
18-S&T_High (Long-Turbine-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3263
18-S&T_High (Long-Turbine-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3264
18-S&T_High (Long-Turbine-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3265
18-S&T_High (Long-Turbine-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3266
18-S&T_High (Long-Turbine-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3267
18-S&T_High (Long-Turbine-Sphere)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3268
18-S&T_High (Long-Turbine-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3269
18-S&T_High (Long-Turbine-Sphere)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3271
18-S&T_High (Long-Turbine-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3272
18-S&T_High (Long-Turbine-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3273
18-S&T_High (Long-Turbine-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3274
18-S&T_High (Long-Turbine-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3275
18-S&T_High (Long-Turbine-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3276
18-S&T_High (Long-Turbine-Sphere)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3277
18-S&T_High (Long-Turbine-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3278
18-S&T_High (Long-Turbine-Sphere)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3280
18-S&T_High (Long-Turbine-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3281
18-S&T_High (Long-Turbine-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3282
18-S&T_High (Long-Turbine-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3283
18-S&T_High (Long-Turbine-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3284
18-S&T_High (Long-Turbine-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3285
18-S&T_High (Long-Turbine-Sphere)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3286
18-S&T_High (Long-Turbine-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3287
18-S&T_High (Long-Turbine-Sphere)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3289
18-S&T_High (Long-Turbine-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3290
18-S&T_High (Long-Turbine-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3291
18-S&T_High (Long-Turbine-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3292

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18-S&T_High (Long-Turbine-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3293
18-S&T_High (Long-Turbine-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3294
18-S&T_High (Long-Turbine-Sphere)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3295
18-S&T_High (Long-Turbine-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3296
18-S&T_High (Long-Turbine-Sphere)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3298
18-S&T_High (Long-Turbine-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3299
18-S&T_High (Long-Turbine-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3300
18-S&T_High (Long-Turbine-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3301
18-S&T_High (Long-Turbine-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3302
18-S&T_High (Long-Turbine-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3303
18-S&T_High (Long-Turbine-Sphere)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3304
18-S&T_High (Long-Turbine-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3305
18-S&T_High (Long-Turbine-Sphere)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3307
18-S&T_High (Long-Turbine-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3308
18-S&T_High (Long-Turbine-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3309
18-S&T_High (Long-Turbine-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3310
18-S&T_High (Long-Turbine-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3311
18-S&T_High (Long-Turbine-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3312
18-S&T_High (Long-Turbine-Sphere)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3313
18-S&T_High (Long-Turbine-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3314
18-S&T_High (Long-Turbine-Sphere)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3316
18-S&T_High (Long-Turbine-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3317
18-S&T_High (Long-Turbine-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3318
18-S&T_High (Long-Turbine-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3319
18-S&T_High (Long-Turbine-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3320
18-S&T_High (Long-Turbine-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3321
18-S&T_High (Long-Turbine-Sphere)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3322
18-S&T_High (Long-Turbine-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3323
18-S&T_High (Long-Turbine-Sphere)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3325
18-S&T_High (Long-Turbine-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3326
18-S&T_High (Long-Turbine-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3327
18-S&T_High (Long-Turbine-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3328
18-S&T_High (Long-Turbine-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3329
18-S&T_High (Long-Turbine-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3330
18-S&T_High (Long-Turbine-Sphere)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3331
18-S&T_High (Long-Turbine-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3332
18-S&T_High (Long-Turbine-Sphere)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3334
18-S&T_High (Long-Turbine-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3335

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18-S&T_High (Long-Turbine-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3336
18-S&T_High (Long-Turbine-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3337
18-S&T_High (Long-Turbine-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3338
18-S&T_High (Long-Turbine-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3339
18-S&T_High (Long-Turbine-Sphere)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3340
18-S&T_High (Long-Turbine-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3341
18-S&T_High (Long-Turbine-Sphere)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3343
18-S&T_High (Long-Turbine-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3344
18-S&T_High (Long-Turbine-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3345
18-S&T_High (Long-Turbine-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3346
18-S&T_High (Long-Turbine-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3347
18-S&T_High (Long-Turbine-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3348
18-S&T_High (Long-Turbine-Sphere)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3349
18-S&T_High (Long-Turbine-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3350
18-S&T_High (Long-Turbine-Sphere)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3352
18-S&T_High (Long-Turbine-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3353
18-S&T_High (Long-Turbine-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3354
18-S&T_High (Long-Turbine-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3355
18-S&T_High (Long-Turbine-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3356
18-S&T_High (Long-Turbine-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3357
18-S&T_High (Long-Turbine-Sphere)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3358
18-S&T_High (Long-Turbine-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3359
18-S&T_High (Long-Turbine-Sphere)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3361
18-S&T_High (Long-Turbine-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3362
18-S&T_High (Long-Turbine-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3363
18-S&T_High (Long-Turbine-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3364
18-S&T_High (Long-Turbine-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3365
18-S&T_High (Long-Turbine-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3366
18-S&T_High (Long-Turbine-Sphere)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3367
18-S&T_High (Long-Turbine-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3368
18-S&T_High (Long-Turbine-Sphere)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3370
18-S&T_High (Long-Turbine-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3371
18-S&T_High (Long-Turbine-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3372
18-S&T_High (Long-Turbine-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3373
18-S&T_High (Long-Turbine-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3374
18-S&T_High (Long-Turbine-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3375
18-S&T_High (Long-Turbine-Sphere)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3376
18-S&T_High (Long-Turbine-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3377

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
18-S&T_High (Long-Turbine-Sphere)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3379
18-S&T_High (Long-Turbine-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3380
18-S&T_High (Long-Turbine-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3381
18-S&T_High (Long-Turbine-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3382
18-S&T_High (Long-Turbine-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3383
18-S&T_High (Long-Turbine-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3384
18-S&T_High (Long-Turbine-Sphere)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3385
18-S&T_High (Long-Turbine-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3386
18-S&T_High (Long-Turbine-Sphere)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3388
18-S&T_High (Long-Turbine-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3389
18-S&T_High (Long-Turbine-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3390
18-S&T_High (Long-Turbine-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3391
18-S&T_High (Long-Turbine-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3392
18-S&T_High (Long-Turbine-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3393
18-S&T_High (Long-Turbine-Sphere)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3394
18-S&T_High (Long-Turbine-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3395
18-S&T_High (Long-Turbine-Sphere)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3397
18-S&T_High (Long-Turbine-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3398
18-S&T_High (Long-Turbine-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3399
18-S&T_High (Long-Turbine-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3400
18-S&T_High (Long-Turbine-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3401
18-S&T_High (Long-Turbine-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3402
18-S&T_High (Long-Turbine-Sphere)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3403
18-S&T_High (Long-Turbine-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3404
19-S&T_High (Long-Recip-UG)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3451
19-S&T_High (Long-Recip-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3452
19-S&T_High (Long-Recip-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3453
19-S&T_High (Long-Recip-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3454
19-S&T_High (Long-Recip-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3455
19-S&T_High (Long-Recip-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3456
19-S&T_High (Long-Recip-UG)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3457
19-S&T_High (Long-Recip-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3458
19-S&T_High (Long-Recip-UG)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3460
19-S&T_High (Long-Recip-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3461
19-S&T_High (Long-Recip-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3462
19-S&T_High (Long-Recip-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3463
19-S&T_High (Long-Recip-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3464
19-S&T_High (Long-Recip-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3465

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19-S&T_High (Long-Recip-UG)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3466
19-S&T_High (Long-Recip-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3467
19-S&T_High (Long-Recip-UG)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3469
19-S&T_High (Long-Recip-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3470
19-S&T_High (Long-Recip-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3471
19-S&T_High (Long-Recip-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3472
19-S&T_High (Long-Recip-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3473
19-S&T_High (Long-Recip-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3474
19-S&T_High (Long-Recip-UG)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3475
19-S&T_High (Long-Recip-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3476
19-S&T_High (Long-Recip-UG)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3478
19-S&T_High (Long-Recip-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3479
19-S&T_High (Long-Recip-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3480
19-S&T_High (Long-Recip-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3481
19-S&T_High (Long-Recip-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3482
19-S&T_High (Long-Recip-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3483
19-S&T_High (Long-Recip-UG)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3484
19-S&T_High (Long-Recip-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3485
19-S&T_High (Long-Recip-UG)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3487
19-S&T_High (Long-Recip-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3488
19-S&T_High (Long-Recip-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3489
19-S&T_High (Long-Recip-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3490
19-S&T_High (Long-Recip-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3491
19-S&T_High (Long-Recip-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3492
19-S&T_High (Long-Recip-UG)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3493
19-S&T_High (Long-Recip-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3494
19-S&T_High (Long-Recip-UG)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3496
19-S&T_High (Long-Recip-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3497
19-S&T_High (Long-Recip-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3498
19-S&T_High (Long-Recip-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3499
19-S&T_High (Long-Recip-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3500
19-S&T_High (Long-Recip-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3501
19-S&T_High (Long-Recip-UG)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3502
19-S&T_High (Long-Recip-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3503
19-S&T_High (Long-Recip-UG)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3505
19-S&T_High (Long-Recip-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3506
19-S&T_High (Long-Recip-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3507
19-S&T_High (Long-Recip-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3508

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19-S&T_High (Long-Recip-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3509
19-S&T_High (Long-Recip-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3510
19-S&T_High (Long-Recip-UG)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3511
19-S&T_High (Long-Recip-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3512
19-S&T_High (Long-Recip-UG)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3514
19-S&T_High (Long-Recip-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3515
19-S&T_High (Long-Recip-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3516
19-S&T_High (Long-Recip-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3517
19-S&T_High (Long-Recip-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3518
19-S&T_High (Long-Recip-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3519
19-S&T_High (Long-Recip-UG)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3520
19-S&T_High (Long-Recip-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3521
19-S&T_High (Long-Recip-UG)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3523
19-S&T_High (Long-Recip-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3524
19-S&T_High (Long-Recip-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3525
19-S&T_High (Long-Recip-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3526
19-S&T_High (Long-Recip-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3527
19-S&T_High (Long-Recip-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3528
19-S&T_High (Long-Recip-UG)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3529
19-S&T_High (Long-Recip-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3530
19-S&T_High (Long-Recip-UG)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3532
19-S&T_High (Long-Recip-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3533
19-S&T_High (Long-Recip-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3534
19-S&T_High (Long-Recip-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3535
19-S&T_High (Long-Recip-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3536
19-S&T_High (Long-Recip-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3537
19-S&T_High (Long-Recip-UG)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3538
19-S&T_High (Long-Recip-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3539
19-S&T_High (Long-Recip-UG)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3541
19-S&T_High (Long-Recip-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3542
19-S&T_High (Long-Recip-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3543
19-S&T_High (Long-Recip-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3544
19-S&T_High (Long-Recip-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3545
19-S&T_High (Long-Recip-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3546
19-S&T_High (Long-Recip-UG)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3547
19-S&T_High (Long-Recip-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3548
19-S&T_High (Long-Recip-UG)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3550
19-S&T_High (Long-Recip-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3551

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
19-S&T_High (Long-Recip-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3552
19-S&T_High (Long-Recip-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3553
19-S&T_High (Long-Recip-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3554
19-S&T_High (Long-Recip-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3555
19-S&T_High (Long-Recip-UG)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3556
19-S&T_High (Long-Recip-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3557
19-S&T_High (Long-Recip-UG)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3559
19-S&T_High (Long-Recip-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3560
19-S&T_High (Long-Recip-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3561
19-S&T_High (Long-Recip-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3562
19-S&T_High (Long-Recip-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3563
19-S&T_High (Long-Recip-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3564
19-S&T_High (Long-Recip-UG)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3565
19-S&T_High (Long-Recip-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3566
19-S&T_High (Long-Recip-UG)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3568
19-S&T_High (Long-Recip-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3569
19-S&T_High (Long-Recip-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3570
19-S&T_High (Long-Recip-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3571
19-S&T_High (Long-Recip-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3572
19-S&T_High (Long-Recip-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3573
19-S&T_High (Long-Recip-UG)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3574
19-S&T_High (Long-Recip-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3575
19-S&T_High (Long-Recip-UG)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3577
19-S&T_High (Long-Recip-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3578
19-S&T_High (Long-Recip-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3579
19-S&T_High (Long-Recip-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3580
19-S&T_High (Long-Recip-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3581
19-S&T_High (Long-Recip-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3582
19-S&T_High (Long-Recip-UG)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3583
19-S&T_High (Long-Recip-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3584
19-S&T_High (Long-Recip-UG)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3586
19-S&T_High (Long-Recip-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3587
19-S&T_High (Long-Recip-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3588
19-S&T_High (Long-Recip-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3589
19-S&T_High (Long-Recip-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3590
19-S&T_High (Long-Recip-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3591
19-S&T_High (Long-Recip-UG)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3592
19-S&T_High (Long-Recip-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3593

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This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".

In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-S&T_High (Long-Recip-Sphere)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3640
20-S&T_High (Long-Recip-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3641
20-S&T_High (Long-Recip-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3642
20-S&T_High (Long-Recip-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3643
20-S&T_High (Long-Recip-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3644
20-S&T_High (Long-Recip-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3645
20-S&T_High (Long-Recip-Sphere)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3646
20-S&T_High (Long-Recip-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3647
20-S&T_High (Long-Recip-Sphere)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3649
20-S&T_High (Long-Recip-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3650
20-S&T_High (Long-Recip-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3651
20-S&T_High (Long-Recip-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3652
20-S&T_High (Long-Recip-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3653
20-S&T_High (Long-Recip-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3654
20-S&T_High (Long-Recip-Sphere)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3655
20-S&T_High (Long-Recip-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3656
20-S&T_High (Long-Recip-Sphere)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3658
20-S&T_High (Long-Recip-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3659
20-S&T_High (Long-Recip-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3660
20-S&T_High (Long-Recip-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3661
20-S&T_High (Long-Recip-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3662
20-S&T_High (Long-Recip-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3663
20-S&T_High (Long-Recip-Sphere)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3664
20-S&T_High (Long-Recip-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3665
20-S&T_High (Long-Recip-Sphere)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3667
20-S&T_High (Long-Recip-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3668
20-S&T_High (Long-Recip-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3669
20-S&T_High (Long-Recip-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3670
20-S&T_High (Long-Recip-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3671
20-S&T_High (Long-Recip-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3672
20-S&T_High (Long-Recip-Sphere)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3673
20-S&T_High (Long-Recip-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3674
20-S&T_High (Long-Recip-Sphere)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3676
20-S&T_High (Long-Recip-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3677
20-S&T_High (Long-Recip-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3678
20-S&T_High (Long-Recip-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3679
20-S&T_High (Long-Recip-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3680
20-S&T_High (Long-Recip-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3681

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-S&T_High (Long-Recip-Sphere)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3682
20-S&T_High (Long-Recip-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3683
20-S&T_High (Long-Recip-Sphere)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3685
20-S&T_High (Long-Recip-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3686
20-S&T_High (Long-Recip-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3687
20-S&T_High (Long-Recip-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3688
20-S&T_High (Long-Recip-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3689
20-S&T_High (Long-Recip-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3690
20-S&T_High (Long-Recip-Sphere)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3691
20-S&T_High (Long-Recip-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3692
20-S&T_High (Long-Recip-Sphere)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3694
20-S&T_High (Long-Recip-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3695
20-S&T_High (Long-Recip-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3696
20-S&T_High (Long-Recip-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3697
20-S&T_High (Long-Recip-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3698
20-S&T_High (Long-Recip-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3699
20-S&T_High (Long-Recip-Sphere)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3700
20-S&T_High (Long-Recip-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3701
20-S&T_High (Long-Recip-Sphere)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3703
20-S&T_High (Long-Recip-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3704
20-S&T_High (Long-Recip-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3705
20-S&T_High (Long-Recip-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3706
20-S&T_High (Long-Recip-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3707
20-S&T_High (Long-Recip-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3708
20-S&T_High (Long-Recip-Sphere)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3709
20-S&T_High (Long-Recip-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3710
20-S&T_High (Long-Recip-Sphere)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3712
20-S&T_High (Long-Recip-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3713
20-S&T_High (Long-Recip-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3714
20-S&T_High (Long-Recip-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3715
20-S&T_High (Long-Recip-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3716
20-S&T_High (Long-Recip-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3717
20-S&T_High (Long-Recip-Sphere)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3718
20-S&T_High (Long-Recip-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3719
20-S&T_High (Long-Recip-Sphere)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3721
20-S&T_High (Long-Recip-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3722
20-S&T_High (Long-Recip-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3723
20-S&T_High (Long-Recip-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3724

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-S&T_High (Long-Recip-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3725
20-S&T_High (Long-Recip-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3726
20-S&T_High (Long-Recip-Sphere)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3727
20-S&T_High (Long-Recip-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3728
20-S&T_High (Long-Recip-Sphere)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3730
20-S&T_High (Long-Recip-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3731
20-S&T_High (Long-Recip-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3732
20-S&T_High (Long-Recip-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3733
20-S&T_High (Long-Recip-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3734
20-S&T_High (Long-Recip-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3735
20-S&T_High (Long-Recip-Sphere)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3736
20-S&T_High (Long-Recip-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3737
20-S&T_High (Long-Recip-Sphere)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3739
20-S&T_High (Long-Recip-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3740
20-S&T_High (Long-Recip-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3741
20-S&T_High (Long-Recip-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3742
20-S&T_High (Long-Recip-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3743
20-S&T_High (Long-Recip-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3744
20-S&T_High (Long-Recip-Sphere)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3745
20-S&T_High (Long-Recip-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3746
20-S&T_High (Long-Recip-Sphere)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3748
20-S&T_High (Long-Recip-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3749
20-S&T_High (Long-Recip-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3750
20-S&T_High (Long-Recip-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3751
20-S&T_High (Long-Recip-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3752
20-S&T_High (Long-Recip-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3753
20-S&T_High (Long-Recip-Sphere)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3754
20-S&T_High (Long-Recip-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3755
20-S&T_High (Long-Recip-Sphere)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3757
20-S&T_High (Long-Recip-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3758
20-S&T_High (Long-Recip-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3759
20-S&T_High (Long-Recip-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3760
20-S&T_High (Long-Recip-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3761
20-S&T_High (Long-Recip-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3762
20-S&T_High (Long-Recip-Sphere)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3763
20-S&T_High (Long-Recip-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3764
20-S&T_High (Long-Recip-Sphere)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3766
20-S&T_High (Long-Recip-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3767

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
20-S&T_High (Long-Recip-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3768
20-S&T_High (Long-Recip-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3769
20-S&T_High (Long-Recip-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3770
20-S&T_High (Long-Recip-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3771
20-S&T_High (Long-Recip-Sphere)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3772
20-S&T_High (Long-Recip-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3773
20-S&T_High (Long-Recip-Sphere)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3775
20-S&T_High (Long-Recip-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3776
20-S&T_High (Long-Recip-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3777
20-S&T_High (Long-Recip-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3778
20-S&T_High (Long-Recip-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3779
20-S&T_High (Long-Recip-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3780
20-S&T_High (Long-Recip-Sphere)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3781
20-S&T_High (Long-Recip-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3782
21-S&T_High (Short-Turbine-UG)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3829
21-S&T_High (Short-Turbine-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3830
21-S&T_High (Short-Turbine-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3831
21-S&T_High (Short-Turbine-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3832
21-S&T_High (Short-Turbine-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3833
21-S&T_High (Short-Turbine-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3834
21-S&T_High (Short-Turbine-UG)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3835
21-S&T_High (Short-Turbine-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3836
21-S&T_High (Short-Turbine-UG)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3838
21-S&T_High (Short-Turbine-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3839
21-S&T_High (Short-Turbine-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3840
21-S&T_High (Short-Turbine-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3841
21-S&T_High (Short-Turbine-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3842
21-S&T_High (Short-Turbine-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3843
21-S&T_High (Short-Turbine-UG)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3844
21-S&T_High (Short-Turbine-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3845
21-S&T_High (Short-Turbine-UG)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3847
21-S&T_High (Short-Turbine-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3848
21-S&T_High (Short-Turbine-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3849
21-S&T_High (Short-Turbine-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3850
21-S&T_High (Short-Turbine-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3851
21-S&T_High (Short-Turbine-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3852
21-S&T_High (Short-Turbine-UG)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3853
21-S&T_High (Short-Turbine-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3854

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
21-S&T_High (Short-Turbine-UG)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3856
21-S&T_High (Short-Turbine-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3857
21-S&T_High (Short-Turbine-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3858
21-S&T_High (Short-Turbine-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3859
21-S&T_High (Short-Turbine-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3860
21-S&T_High (Short-Turbine-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3861
21-S&T_High (Short-Turbine-UG)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3862
21-S&T_High (Short-Turbine-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3863
21-S&T_High (Short-Turbine-UG)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3865
21-S&T_High (Short-Turbine-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3866
21-S&T_High (Short-Turbine-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3867
21-S&T_High (Short-Turbine-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3868
21-S&T_High (Short-Turbine-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3869
21-S&T_High (Short-Turbine-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3870
21-S&T_High (Short-Turbine-UG)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3871
21-S&T_High (Short-Turbine-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3872
21-S&T_High (Short-Turbine-UG)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3874
21-S&T_High (Short-Turbine-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3875
21-S&T_High (Short-Turbine-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3876
21-S&T_High (Short-Turbine-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3877
21-S&T_High (Short-Turbine-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3878
21-S&T_High (Short-Turbine-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3879
21-S&T_High (Short-Turbine-UG)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3880
21-S&T_High (Short-Turbine-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3881
21-S&T_High (Short-Turbine-UG)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3883
21-S&T_High (Short-Turbine-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3884
21-S&T_High (Short-Turbine-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3885
21-S&T_High (Short-Turbine-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3886
21-S&T_High (Short-Turbine-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3887
21-S&T_High (Short-Turbine-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3888
21-S&T_High (Short-Turbine-UG)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3889
21-S&T_High (Short-Turbine-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3890
21-S&T_High (Short-Turbine-UG)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3892
21-S&T_High (Short-Turbine-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3893
21-S&T_High (Short-Turbine-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3894
21-S&T_High (Short-Turbine-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3895
21-S&T_High (Short-Turbine-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3896
21-S&T_High (Short-Turbine-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3897

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
21-S&T_High (Short-Turbine-UG)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3898
21-S&T_High (Short-Turbine-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3899
21-S&T_High (Short-Turbine-UG)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3901
21-S&T_High (Short-Turbine-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3902
21-S&T_High (Short-Turbine-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3903
21-S&T_High (Short-Turbine-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3904
21-S&T_High (Short-Turbine-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3905
21-S&T_High (Short-Turbine-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3906
21-S&T_High (Short-Turbine-UG)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3907
21-S&T_High (Short-Turbine-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3908
21-S&T_High (Short-Turbine-UG)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3910
21-S&T_High (Short-Turbine-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3911
21-S&T_High (Short-Turbine-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3912
21-S&T_High (Short-Turbine-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3913
21-S&T_High (Short-Turbine-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3914
21-S&T_High (Short-Turbine-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3915
21-S&T_High (Short-Turbine-UG)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3916
21-S&T_High (Short-Turbine-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3917
21-S&T_High (Short-Turbine-UG)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3919
21-S&T_High (Short-Turbine-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3920
21-S&T_High (Short-Turbine-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3921
21-S&T_High (Short-Turbine-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3922
21-S&T_High (Short-Turbine-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3923
21-S&T_High (Short-Turbine-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3924
21-S&T_High (Short-Turbine-UG)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3925
21-S&T_High (Short-Turbine-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3926
21-S&T_High (Short-Turbine-UG)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3928
21-S&T_High (Short-Turbine-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3929
21-S&T_High (Short-Turbine-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3930
21-S&T_High (Short-Turbine-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3931
21-S&T_High (Short-Turbine-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3932
21-S&T_High (Short-Turbine-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3933
21-S&T_High (Short-Turbine-UG)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3934
21-S&T_High (Short-Turbine-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3935
21-S&T_High (Short-Turbine-UG)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3937
21-S&T_High (Short-Turbine-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3938
21-S&T_High (Short-Turbine-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3939
21-S&T_High (Short-Turbine-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3940

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
21-S&T_High (Short-Turbine-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3941
21-S&T_High (Short-Turbine-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3942
21-S&T_High (Short-Turbine-UG)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3943
21-S&T_High (Short-Turbine-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3944
21-S&T_High (Short-Turbine-UG)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3946
21-S&T_High (Short-Turbine-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3947
21-S&T_High (Short-Turbine-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3948
21-S&T_High (Short-Turbine-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3949
21-S&T_High (Short-Turbine-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3950
21-S&T_High (Short-Turbine-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3951
21-S&T_High (Short-Turbine-UG)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3952
21-S&T_High (Short-Turbine-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3953
21-S&T_High (Short-Turbine-UG)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3955
21-S&T_High (Short-Turbine-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3956
21-S&T_High (Short-Turbine-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3957
21-S&T_High (Short-Turbine-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3958
21-S&T_High (Short-Turbine-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3959
21-S&T_High (Short-Turbine-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3960
21-S&T_High (Short-Turbine-UG)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3961
21-S&T_High (Short-Turbine-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3962
21-S&T_High (Short-Turbine-UG)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3964
21-S&T_High (Short-Turbine-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3965
21-S&T_High (Short-Turbine-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3966
21-S&T_High (Short-Turbine-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3967
21-S&T_High (Short-Turbine-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3968
21-S&T_High (Short-Turbine-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3969
21-S&T_High (Short-Turbine-UG)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3970
21-S&T_High (Short-Turbine-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY3971
22-S&T_High (Short-Turbine-Sphere)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4018
22-S&T_High (Short-Turbine-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4019
22-S&T_High (Short-Turbine-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4020
22-S&T_High (Short-Turbine-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4021
22-S&T_High (Short-Turbine-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4022
22-S&T_High (Short-Turbine-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4023
22-S&T_High (Short-Turbine-Sphere)	2030_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4024
22-S&T_High (Short-Turbine-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4025
22-S&T_High (Short-Turbine-Sphere)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4027
22-S&T_High (Short-Turbine-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4028

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22-S&T_High (Short-Turbine-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4029
22-S&T_High (Short-Turbine-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4030
22-S&T_High (Short-Turbine-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4031
22-S&T_High (Short-Turbine-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4032
22-S&T_High (Short-Turbine-Sphere)	2031_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4033
22-S&T_High (Short-Turbine-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4034
22-S&T_High (Short-Turbine-Sphere)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4036
22-S&T_High (Short-Turbine-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4037
22-S&T_High (Short-Turbine-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4038
22-S&T_High (Short-Turbine-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4039
22-S&T_High (Short-Turbine-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4040
22-S&T_High (Short-Turbine-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4041
22-S&T_High (Short-Turbine-Sphere)	2032_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4042
22-S&T_High (Short-Turbine-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4043
22-S&T_High (Short-Turbine-Sphere)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4045
22-S&T_High (Short-Turbine-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4046
22-S&T_High (Short-Turbine-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4047
22-S&T_High (Short-Turbine-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4048
22-S&T_High (Short-Turbine-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4049
22-S&T_High (Short-Turbine-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4050
22-S&T_High (Short-Turbine-Sphere)	2033_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4051
22-S&T_High (Short-Turbine-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4052
22-S&T_High (Short-Turbine-Sphere)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4054
22-S&T_High (Short-Turbine-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4055
22-S&T_High (Short-Turbine-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4056
22-S&T_High (Short-Turbine-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4057
22-S&T_High (Short-Turbine-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4058
22-S&T_High (Short-Turbine-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4059
22-S&T_High (Short-Turbine-Sphere)	2034_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4060
22-S&T_High (Short-Turbine-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4061
22-S&T_High (Short-Turbine-Sphere)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4063
22-S&T_High (Short-Turbine-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4064
22-S&T_High (Short-Turbine-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4065
22-S&T_High (Short-Turbine-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4066
22-S&T_High (Short-Turbine-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4067
22-S&T_High (Short-Turbine-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4068
22-S&T_High (Short-Turbine-Sphere)	2035_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4069
22-S&T_High (Short-Turbine-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4070

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22-S&T_High (Short-Turbine-Sphere)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4072
22-S&T_High (Short-Turbine-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4073
22-S&T_High (Short-Turbine-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4074
22-S&T_High (Short-Turbine-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4075
22-S&T_High (Short-Turbine-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4076
22-S&T_High (Short-Turbine-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4077
22-S&T_High (Short-Turbine-Sphere)	2036_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4078
22-S&T_High (Short-Turbine-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4079
22-S&T_High (Short-Turbine-Sphere)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4081
22-S&T_High (Short-Turbine-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4082
22-S&T_High (Short-Turbine-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4083
22-S&T_High (Short-Turbine-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4084
22-S&T_High (Short-Turbine-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4085
22-S&T_High (Short-Turbine-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4086
22-S&T_High (Short-Turbine-Sphere)	2037_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4087
22-S&T_High (Short-Turbine-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4088
22-S&T_High (Short-Turbine-Sphere)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4090
22-S&T_High (Short-Turbine-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4091
22-S&T_High (Short-Turbine-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4092
22-S&T_High (Short-Turbine-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4093
22-S&T_High (Short-Turbine-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4094
22-S&T_High (Short-Turbine-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4095
22-S&T_High (Short-Turbine-Sphere)	2038_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4096
22-S&T_High (Short-Turbine-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4097
22-S&T_High (Short-Turbine-Sphere)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4099
22-S&T_High (Short-Turbine-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4100
22-S&T_High (Short-Turbine-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4101
22-S&T_High (Short-Turbine-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4102
22-S&T_High (Short-Turbine-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4103
22-S&T_High (Short-Turbine-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4104
22-S&T_High (Short-Turbine-Sphere)	2039_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4105
22-S&T_High (Short-Turbine-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4106
22-S&T_High (Short-Turbine-Sphere)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4108
22-S&T_High (Short-Turbine-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4109
22-S&T_High (Short-Turbine-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4110
22-S&T_High (Short-Turbine-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4111
22-S&T_High (Short-Turbine-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4112
22-S&T_High (Short-Turbine-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4113

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Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22-S&T_High (Short-Turbine-Sphere)	2040_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4114
22-S&T_High (Short-Turbine-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4115
22-S&T_High (Short-Turbine-Sphere)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4117
22-S&T_High (Short-Turbine-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4118
22-S&T_High (Short-Turbine-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4119
22-S&T_High (Short-Turbine-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4120
22-S&T_High (Short-Turbine-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4121
22-S&T_High (Short-Turbine-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4122
22-S&T_High (Short-Turbine-Sphere)	2041_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4123
22-S&T_High (Short-Turbine-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4124
22-S&T_High (Short-Turbine-Sphere)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4126
22-S&T_High (Short-Turbine-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4127
22-S&T_High (Short-Turbine-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4128
22-S&T_High (Short-Turbine-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4129
22-S&T_High (Short-Turbine-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4130
22-S&T_High (Short-Turbine-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4131
22-S&T_High (Short-Turbine-Sphere)	2042_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4132
22-S&T_High (Short-Turbine-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4133
22-S&T_High (Short-Turbine-Sphere)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4135
22-S&T_High (Short-Turbine-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4136
22-S&T_High (Short-Turbine-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4137
22-S&T_High (Short-Turbine-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4138
22-S&T_High (Short-Turbine-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4139
22-S&T_High (Short-Turbine-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4140
22-S&T_High (Short-Turbine-Sphere)	2043_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4141
22-S&T_High (Short-Turbine-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4142
22-S&T_High (Short-Turbine-Sphere)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4144
22-S&T_High (Short-Turbine-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4145
22-S&T_High (Short-Turbine-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4146
22-S&T_High (Short-Turbine-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4147
22-S&T_High (Short-Turbine-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4148
22-S&T_High (Short-Turbine-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4149
22-S&T_High (Short-Turbine-Sphere)	2044_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4150
22-S&T_High (Short-Turbine-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4151
22-S&T_High (Short-Turbine-Sphere)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4153
22-S&T_High (Short-Turbine-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4154
22-S&T_High (Short-Turbine-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4155
22-S&T_High (Short-Turbine-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	51.9	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4156

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
22-S&T_High (Short-Turbine-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4157
22-S&T_High (Short-Turbine-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4158
22-S&T_High (Short-Turbine-Sphere)	2045_H2	NG NOx EF (ppm/)	2.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4159
22-S&T_High (Short-Turbine-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4160
23-S&T_High (Short-Recip-UG)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4207
23-S&T_High (Short-Recip-UG)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4208
23-S&T_High (Short-Recip-UG)	2030_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4209
23-S&T_High (Short-Recip-UG)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4210
23-S&T_High (Short-Recip-UG)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4211
23-S&T_High (Short-Recip-UG)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4212
23-S&T_High (Short-Recip-UG)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4213
23-S&T_High (Short-Recip-UG)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4214
23-S&T_High (Short-Recip-UG)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4216
23-S&T_High (Short-Recip-UG)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4217
23-S&T_High (Short-Recip-UG)	2031_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4218
23-S&T_High (Short-Recip-UG)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4219
23-S&T_High (Short-Recip-UG)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4220
23-S&T_High (Short-Recip-UG)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4221
23-S&T_High (Short-Recip-UG)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4222
23-S&T_High (Short-Recip-UG)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4223
23-S&T_High (Short-Recip-UG)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4225
23-S&T_High (Short-Recip-UG)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4226
23-S&T_High (Short-Recip-UG)	2032_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4227
23-S&T_High (Short-Recip-UG)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4228
23-S&T_High (Short-Recip-UG)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4229
23-S&T_High (Short-Recip-UG)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4230
23-S&T_High (Short-Recip-UG)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4231
23-S&T_High (Short-Recip-UG)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4232
23-S&T_High (Short-Recip-UG)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4234
23-S&T_High (Short-Recip-UG)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4235
23-S&T_High (Short-Recip-UG)	2033_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4236
23-S&T_High (Short-Recip-UG)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4237
23-S&T_High (Short-Recip-UG)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4238
23-S&T_High (Short-Recip-UG)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4239
23-S&T_High (Short-Recip-UG)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4240
23-S&T_High (Short-Recip-UG)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4241
23-S&T_High (Short-Recip-UG)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4243
23-S&T_High (Short-Recip-UG)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4244

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
23-S&T_High (Short-Recip-UG)	2034_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4245
23-S&T_High (Short-Recip-UG)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4246
23-S&T_High (Short-Recip-UG)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4247
23-S&T_High (Short-Recip-UG)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4248
23-S&T_High (Short-Recip-UG)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4249
23-S&T_High (Short-Recip-UG)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4250
23-S&T_High (Short-Recip-UG)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4252
23-S&T_High (Short-Recip-UG)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4253
23-S&T_High (Short-Recip-UG)	2035_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4254
23-S&T_High (Short-Recip-UG)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4255
23-S&T_High (Short-Recip-UG)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4256
23-S&T_High (Short-Recip-UG)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4257
23-S&T_High (Short-Recip-UG)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4258
23-S&T_High (Short-Recip-UG)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4259
23-S&T_High (Short-Recip-UG)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4261
23-S&T_High (Short-Recip-UG)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4262
23-S&T_High (Short-Recip-UG)	2036_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4263
23-S&T_High (Short-Recip-UG)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4264
23-S&T_High (Short-Recip-UG)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4265
23-S&T_High (Short-Recip-UG)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4266
23-S&T_High (Short-Recip-UG)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4267
23-S&T_High (Short-Recip-UG)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4268
23-S&T_High (Short-Recip-UG)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4270
23-S&T_High (Short-Recip-UG)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4271
23-S&T_High (Short-Recip-UG)	2037_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4272
23-S&T_High (Short-Recip-UG)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4273
23-S&T_High (Short-Recip-UG)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4274
23-S&T_High (Short-Recip-UG)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4275
23-S&T_High (Short-Recip-UG)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4276
23-S&T_High (Short-Recip-UG)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4277
23-S&T_High (Short-Recip-UG)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4279
23-S&T_High (Short-Recip-UG)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4280
23-S&T_High (Short-Recip-UG)	2038_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4281
23-S&T_High (Short-Recip-UG)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4282
23-S&T_High (Short-Recip-UG)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4283
23-S&T_High (Short-Recip-UG)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4284
23-S&T_High (Short-Recip-UG)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4285
23-S&T_High (Short-Recip-UG)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4286

Tab Contents
This workbook contains select tabs (including this one) from a proprietary Stantec calculation tool. This data is copied from "ALP1_NOx_S&T_1_DataPrep_SoCalGas", "1. Data_Prep_S&T" tab. The input data in this tab was processed through the function in "3.1 EQ S&T" to produce the results in "4. Calculations".
In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
23-S&T_High (Short-Recip-UG)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4288
23-S&T_High (Short-Recip-UG)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4289
23-S&T_High (Short-Recip-UG)	2039_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4290
23-S&T_High (Short-Recip-UG)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4291
23-S&T_High (Short-Recip-UG)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4292
23-S&T_High (Short-Recip-UG)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4293
23-S&T_High (Short-Recip-UG)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4294
23-S&T_High (Short-Recip-UG)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4295
23-S&T_High (Short-Recip-UG)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4297
23-S&T_High (Short-Recip-UG)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4298
23-S&T_High (Short-Recip-UG)	2040_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4299
23-S&T_High (Short-Recip-UG)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4300
23-S&T_High (Short-Recip-UG)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4301
23-S&T_High (Short-Recip-UG)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4302
23-S&T_High (Short-Recip-UG)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4303
23-S&T_High (Short-Recip-UG)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4304
23-S&T_High (Short-Recip-UG)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4306
23-S&T_High (Short-Recip-UG)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4307
23-S&T_High (Short-Recip-UG)	2041_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4308
23-S&T_High (Short-Recip-UG)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4309
23-S&T_High (Short-Recip-UG)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4310
23-S&T_High (Short-Recip-UG)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4311
23-S&T_High (Short-Recip-UG)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4312
23-S&T_High (Short-Recip-UG)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4313
23-S&T_High (Short-Recip-UG)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4315
23-S&T_High (Short-Recip-UG)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4316
23-S&T_High (Short-Recip-UG)	2042_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4317
23-S&T_High (Short-Recip-UG)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4318
23-S&T_High (Short-Recip-UG)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4319
23-S&T_High (Short-Recip-UG)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4320
23-S&T_High (Short-Recip-UG)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4321
23-S&T_High (Short-Recip-UG)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4322
23-S&T_High (Short-Recip-UG)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4324
23-S&T_High (Short-Recip-UG)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4325
23-S&T_High (Short-Recip-UG)	2043_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4326
23-S&T_High (Short-Recip-UG)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4327
23-S&T_High (Short-Recip-UG)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4328
23-S&T_High (Short-Recip-UG)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4329

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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
23-S&T_High (Short-Recip-UG)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4330
23-S&T_High (Short-Recip-UG)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4331
23-S&T_High (Short-Recip-UG)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4333
23-S&T_High (Short-Recip-UG)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4334
23-S&T_High (Short-Recip-UG)	2044_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4335
23-S&T_High (Short-Recip-UG)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4336
23-S&T_High (Short-Recip-UG)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4337
23-S&T_High (Short-Recip-UG)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4338
23-S&T_High (Short-Recip-UG)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4339
23-S&T_High (Short-Recip-UG)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4340
23-S&T_High (Short-Recip-UG)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4342
23-S&T_High (Short-Recip-UG)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4343
23-S&T_High (Short-Recip-UG)	2045_H2	Compression Energy (MJ/kg)	14	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4344
23-S&T_High (Short-Recip-UG)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4345
23-S&T_High (Short-Recip-UG)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4346
23-S&T_High (Short-Recip-UG)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4347
23-S&T_High (Short-Recip-UG)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4348
23-S&T_High (Short-Recip-UG)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4349
24-S&T_High (Short-Recip-Sphere)	2030_H2	Hydrogen (MMBtu/)	126886641.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4396
24-S&T_High (Short-Recip-Sphere)	2030_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4397
24-S&T_High (Short-Recip-Sphere)	2030_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4398
24-S&T_High (Short-Recip-Sphere)	2030_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4399
24-S&T_High (Short-Recip-Sphere)	2030_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4400
24-S&T_High (Short-Recip-Sphere)	2030_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4401
24-S&T_High (Short-Recip-Sphere)	2030_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4402
24-S&T_High (Short-Recip-Sphere)	2030_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4403
24-S&T_High (Short-Recip-Sphere)	2031_H2	Hydrogen (MMBtu/)	149054169.1	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4405
24-S&T_High (Short-Recip-Sphere)	2031_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4406
24-S&T_High (Short-Recip-Sphere)	2031_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4407
24-S&T_High (Short-Recip-Sphere)	2031_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4408
24-S&T_High (Short-Recip-Sphere)	2031_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4409
24-S&T_High (Short-Recip-Sphere)	2031_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4410
24-S&T_High (Short-Recip-Sphere)	2031_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4411
24-S&T_High (Short-Recip-Sphere)	2031_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4412
24-S&T_High (Short-Recip-Sphere)	2032_H2	Hydrogen (MMBtu/)	173491362.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4414
24-S&T_High (Short-Recip-Sphere)	2032_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4415
24-S&T_High (Short-Recip-Sphere)	2032_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4416
24-S&T_High (Short-Recip-Sphere)	2032_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4417

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Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
24-S&T_High (Short-Recip-Sphere)	2032_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4418
24-S&T_High (Short-Recip-Sphere)	2032_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4419
24-S&T_High (Short-Recip-Sphere)	2032_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4420
24-S&T_High (Short-Recip-Sphere)	2032_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4421
24-S&T_High (Short-Recip-Sphere)	2033_H2	Hydrogen (MMBtu/)	200485117.2	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4423
24-S&T_High (Short-Recip-Sphere)	2033_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4424
24-S&T_High (Short-Recip-Sphere)	2033_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4425
24-S&T_High (Short-Recip-Sphere)	2033_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4426
24-S&T_High (Short-Recip-Sphere)	2033_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4427
24-S&T_High (Short-Recip-Sphere)	2033_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4428
24-S&T_High (Short-Recip-Sphere)	2033_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4429
24-S&T_High (Short-Recip-Sphere)	2033_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4430
24-S&T_High (Short-Recip-Sphere)	2034_H2	Hydrogen (MMBtu/)	230240132.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4432
24-S&T_High (Short-Recip-Sphere)	2034_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4433
24-S&T_High (Short-Recip-Sphere)	2034_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4434
24-S&T_High (Short-Recip-Sphere)	2034_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4435
24-S&T_High (Short-Recip-Sphere)	2034_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4436
24-S&T_High (Short-Recip-Sphere)	2034_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4437
24-S&T_High (Short-Recip-Sphere)	2034_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4438
24-S&T_High (Short-Recip-Sphere)	2034_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4439
24-S&T_High (Short-Recip-Sphere)	2035_H2	Hydrogen (MMBtu/)	262745046.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4441
24-S&T_High (Short-Recip-Sphere)	2035_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4442
24-S&T_High (Short-Recip-Sphere)	2035_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4443
24-S&T_High (Short-Recip-Sphere)	2035_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4444
24-S&T_High (Short-Recip-Sphere)	2035_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4445
24-S&T_High (Short-Recip-Sphere)	2035_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4446
24-S&T_High (Short-Recip-Sphere)	2035_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4447
24-S&T_High (Short-Recip-Sphere)	2035_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4448
24-S&T_High (Short-Recip-Sphere)	2036_H2	Hydrogen (MMBtu/)	296544623.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4450
24-S&T_High (Short-Recip-Sphere)	2036_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4451
24-S&T_High (Short-Recip-Sphere)	2036_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4452
24-S&T_High (Short-Recip-Sphere)	2036_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4453
24-S&T_High (Short-Recip-Sphere)	2036_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4454
24-S&T_High (Short-Recip-Sphere)	2036_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4455
24-S&T_High (Short-Recip-Sphere)	2036_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4456
24-S&T_High (Short-Recip-Sphere)	2036_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4457
24-S&T_High (Short-Recip-Sphere)	2037_H2	Hydrogen (MMBtu/)	333310118.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4459
24-S&T_High (Short-Recip-Sphere)	2037_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4460

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
24-S&T_High (Short-Recip-Sphere)	2037_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4461
24-S&T_High (Short-Recip-Sphere)	2037_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4462
24-S&T_High (Short-Recip-Sphere)	2037_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4463
24-S&T_High (Short-Recip-Sphere)	2037_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4464
24-S&T_High (Short-Recip-Sphere)	2037_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4465
24-S&T_High (Short-Recip-Sphere)	2037_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4466
24-S&T_High (Short-Recip-Sphere)	2038_H2	Hydrogen (MMBtu/)	370083058.7	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4468
24-S&T_High (Short-Recip-Sphere)	2038_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4469
24-S&T_High (Short-Recip-Sphere)	2038_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4470
24-S&T_High (Short-Recip-Sphere)	2038_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4471
24-S&T_High (Short-Recip-Sphere)	2038_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4472
24-S&T_High (Short-Recip-Sphere)	2038_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4473
24-S&T_High (Short-Recip-Sphere)	2038_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4474
24-S&T_High (Short-Recip-Sphere)	2038_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4475
24-S&T_High (Short-Recip-Sphere)	2039_H2	Hydrogen (MMBtu/)	408188959.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4477
24-S&T_High (Short-Recip-Sphere)	2039_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4478
24-S&T_High (Short-Recip-Sphere)	2039_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4479
24-S&T_High (Short-Recip-Sphere)	2039_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4480
24-S&T_High (Short-Recip-Sphere)	2039_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4481
24-S&T_High (Short-Recip-Sphere)	2039_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4482
24-S&T_High (Short-Recip-Sphere)	2039_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4483
24-S&T_High (Short-Recip-Sphere)	2039_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4484
24-S&T_High (Short-Recip-Sphere)	2040_H2	Hydrogen (MMBtu/)	448126955.5	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4486
24-S&T_High (Short-Recip-Sphere)	2040_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4487
24-S&T_High (Short-Recip-Sphere)	2040_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4488
24-S&T_High (Short-Recip-Sphere)	2040_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4489
24-S&T_High (Short-Recip-Sphere)	2040_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4490
24-S&T_High (Short-Recip-Sphere)	2040_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4491
24-S&T_High (Short-Recip-Sphere)	2040_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4492
24-S&T_High (Short-Recip-Sphere)	2040_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4493
24-S&T_High (Short-Recip-Sphere)	2041_H2	Hydrogen (MMBtu/)	488985592.8	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4495
24-S&T_High (Short-Recip-Sphere)	2041_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4496
24-S&T_High (Short-Recip-Sphere)	2041_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4497
24-S&T_High (Short-Recip-Sphere)	2041_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4498
24-S&T_High (Short-Recip-Sphere)	2041_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4499
24-S&T_High (Short-Recip-Sphere)	2041_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4500
24-S&T_High (Short-Recip-Sphere)	2041_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4501
24-S&T_High (Short-Recip-Sphere)	2041_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4502

Tab Contents
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In this workbook, the terms "Low", "Mid", and "High" correspond to the "Conservative", "Moderate", and "Ambitious" market scenarios.

Equipment ID	*Fuel Type*	*Parameter*	Value	Reference
24-S&T_High (Short-Recip-Sphere)	2042_H2	Hydrogen (MMBtu/)	531870935.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4504
24-S&T_High (Short-Recip-Sphere)	2042_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4505
24-S&T_High (Short-Recip-Sphere)	2042_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4506
24-S&T_High (Short-Recip-Sphere)	2042_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4507
24-S&T_High (Short-Recip-Sphere)	2042_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4508
24-S&T_High (Short-Recip-Sphere)	2042_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4509
24-S&T_High (Short-Recip-Sphere)	2042_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4510
24-S&T_High (Short-Recip-Sphere)	2042_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4511
24-S&T_High (Short-Recip-Sphere)	2043_H2	Hydrogen (MMBtu/)	576956761.4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4513
24-S&T_High (Short-Recip-Sphere)	2043_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4514
24-S&T_High (Short-Recip-Sphere)	2043_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4515
24-S&T_High (Short-Recip-Sphere)	2043_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4516
24-S&T_High (Short-Recip-Sphere)	2043_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4517
24-S&T_High (Short-Recip-Sphere)	2043_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4518
24-S&T_High (Short-Recip-Sphere)	2043_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4519
24-S&T_High (Short-Recip-Sphere)	2043_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4520
24-S&T_High (Short-Recip-Sphere)	2044_H2	Hydrogen (MMBtu/)	623776900.6	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4522
24-S&T_High (Short-Recip-Sphere)	2044_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4523
24-S&T_High (Short-Recip-Sphere)	2044_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4524
24-S&T_High (Short-Recip-Sphere)	2044_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4525
24-S&T_High (Short-Recip-Sphere)	2044_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4526
24-S&T_High (Short-Recip-Sphere)	2044_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4527
24-S&T_High (Short-Recip-Sphere)	2044_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4528
24-S&T_High (Short-Recip-Sphere)	2044_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4529
24-S&T_High (Short-Recip-Sphere)	2045_H2	Hydrogen (MMBtu/)	672551001	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4531
24-S&T_High (Short-Recip-Sphere)	2045_H2	% H2 Stored (scf/100-scf)	13.82827017	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4532
24-S&T_High (Short-Recip-Sphere)	2045_H2	Compression Energy (MJ/kg)	4	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4533
24-S&T_High (Short-Recip-Sphere)	2045_H2	Efficiency (MMBtu/100-MMBtu)	60.3	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4534
24-S&T_High (Short-Recip-Sphere)	2045_H2	Pipeline Length (mi/)	450	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4535
24-S&T_High (Short-Recip-Sphere)	2045_H2	H2 Consumption Per Km (MMBtu/100-MMBtu * km)	0.009333333	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4536
24-S&T_High (Short-Recip-Sphere)	2045_H2	NG NOx EF (ppm/)	11	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4537
24-S&T_High (Short-Recip-Sphere)	2045_H2	O2 Percent (scf/100-scf)	15	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY4538

Sample Emission Calculation

9-S&T_Mid (Long-Turbine-UG) 2035_H2

10/15/2024

Emissions are calculated using the following equation(s):

Stored Hydrogen (kg) = Hydrogen (MMBtu) x % H2 Stored (scf/100-scf) ÷ HHV-lb H2 (Btu/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Conv (lb-kg) (lb/kg)

H2 for Storage Compression (MMBtu) = Stored H2 (kg) x Compression Energy (MJ/kg) x Conv (J-MJ) (J/MJ) ÷ Conv (Btu-J) (J/Btu) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Efficiency (MMBtu/100-MMBtu)

H2 for Transmission Compression (MMBtu) = Hydrogen (MMBtu) x Pipeline Length (mi) x Conv (km-mi) (km/mi) x H2 Consumption Per Km (MMBtu/100-MMBtu * km)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

100%-H2 NOx EF (ton/MMBtu) = NG NOx EF (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf) ÷ Conv (lb-ton) (lb/ton)

Storage Compressor NOx (ton NOx) = Storage Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Transmission Compressor NOx (ton NOx) = Transmission Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Overall NOx (ton NOx) = Storage Compressor NOx (ton NOx) + Transmission Compressor NOx (ton NOx)

Where:

Hydrogen (MMBtu/) = Annual hydrogen demand

% H2 Stored (scf/100-scf) = Percent of annual hydrogen demand that is stored

Compression Energy (MJ/kg) = Energy required for compression (varies by storage-scenario)

Efficiency (MMBtu/100-MMBtu) = Combustion efficiency (varies by compressor-drive scenario)

Pipeline Length (mi/) = Transmission distance

H2 Consumption Per Km (MMBtu/100-MMBtu * km) = Hydrogen consumption per unit of transmission distance

NG NOx EF (ppm/) = NOx emission factor for natural gas (varies by compressor-drive scenario)

O2 Percent (scf/100-scf = Combustion oxygen percent (for equipment category)

Using the following parameter values:

Sample Emission Calculation

9-S&T_Mid (Long-Turbine-UG) 2035_H2

10/15/2024

Table 1. S&T Calculation Inputs

Parameter	Value	Units	Resource
Hydrogen	102,244,522.45	MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1606
% H2 Stored	13.83	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1607
Compression Energy	14.00	MJ/kg	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1608
Efficiency	51.90	MMBtu/100-MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1609
Pipeline Length	450.00	mi	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1610
H2 Consumption Per Km	0.009333	MMBtu/(100-MMBtu * km)	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1611
NG NOx EF	2.50	ppm	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1612
Correction 100%-H2 Ratio	1.370000	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (Btu-J)	1,055.06	J/Btu	https://www.unitconverters.net/energy/joule-to-btu-it.htm
Conv (J-MJ)	1,000,000.00	J/MJ	

Sample Emission Calculation

9-S&T_Mid (Long-Turbine-UG) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Conv (km-mi)	1.609344	km/mi	https://www.unitconverters.net/length/km-to-miles.htm
Conv (Conc-ppm)	1,000,000.000000	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-ton)	2,000.000000	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
Conv (lb-kg)	2.205000	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (kg-MT)	1,000.000000	kg/MT	
O2 Percent	15.000000	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1613
O2 Correction	3.542373	scf/scf	Calculated: 20.9/(20.9 - O2 percent)
Molar Volume @ 68 F	385.220000	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
Specific Weight H2	364.000000	scf/lb	Jahnke, 1993. Appendix A.
Fd (H2 @ 68 F)	5,975.049245	scf/MMBtu	Calculated Below
MW (NO2)	46.000000	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
Stored H2	105,254,196.04	kg	Calculated Below
Storage Compressor H2	2,691,067.834135	MMBtu	Calculated Below
Transmission Compressor H2	6,910,957.567000	MMBtu	Calculated Below
100%-H2 NOx EF	0.000004	ton NOx/MMBtu	Calculated Below
Storage Compressor NOx	11.647695	ton NOx	Calculated Below

Sample Emission Calculation

9-S&T_Mid (Long-Turbine-UG) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Transmission Compressor NOx	29.912559	ton NOx	Calculated Below

Stored Hydrogen (kg) = 102,244,522.450196 (MMBtu) x 13.8282702 (scf/100-scf) ÷ 60,920.0 (Btu/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 2.205 (lb/kg) = 105,254,196.040634 (kg)

H2 for Storage Compression (MMBtu) = 105,254,196.040634 (kg) x 14.0 (MJ/kg) x 1,000,000.0 (J/MJ) ÷ 1,055.0558526 (J/Btu) ÷ 1,000,000.0 (Btu/MMBtu) ÷ 51.9 (MMBtu/100-MMBtu) = 2,691,067.8341354 (MMBtu)

H2 for Transmission Compression (MMBtu) = 102,244,522.450196 (MMBtu) x 450.0 (mi) x 1.609344 (km/mi) x 0.0093333 (MMBtu/100-MMBtu * km) = 6,910,957.5669997 (MMBtu)

Fd (H2 @ 68 F) (scf/MMBtu) = 364 (scf/lb) x 1,000,000 (Btu/MMBtu) ÷ 60,920 (Btu/lb) = 5975 (scf/MMBtu)

100%-H2 NOx EF (ton/MMBtu) = 2.5 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 3.5423729 (scf/scf) ÷ 2,000.0 (lb/ton) = 0.0000043 (ton/MMBtu)

Storage Compressor NOx (ton NOx) = 2,691,067.8341354 (MMBtu) x 0.0000043 (ton NOx/MMBtu) = 11.6476951 (ton NOx)

Transmission Compressor NOx (ton NOx) = 6,910,957.5669997 (MMBtu) x 0.0000043 (ton NOx/MMBtu) = 29.9125595 (ton NOx)

Overall NOx (ton NOx) = 11.6476951 (ton NOx) + 29.9125595 (ton NOx) = 41.5602546 (ton NOx)

Sample Emission Calculation

10-S&T_Mid (Long-Turbine-Sphere) 2035_H2

10/15/2024

Emissions are calculated using the following equation(s):

Stored Hydrogen (kg) = Hydrogen (MMBtu) x % H2 Stored (scf/100-scf) ÷ HHV-lb H2 (Btu/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Conv (lb-kg) (lb/kg)

H2 for Storage Compression (MMBtu) = Stored H2 (kg) x Compression Energy (MJ/kg) x Conv (J-MJ) (J/MJ) ÷ Conv (Btu-J) (J/Btu) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Efficiency (MMBtu/100-MMBtu)

H2 for Transmission Compression (MMBtu) = Hydrogen (MMBtu) x Pipeline Length (mi) x Conv (km-mi) (km/mi) x H2 Consumption Per Km (MMBtu/100-MMBtu * km)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

100%-H2 NOx EF (ton/MMBtu) = NG NOx EF (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf) ÷ Conv (lb-ton) (lb/ton)

Storage Compressor NOx (ton NOx) = Storage Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Transmission Compressor NOx (ton NOx) = Transmission Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Overall NOx (ton NOx) = Storage Compressor NOx (ton NOx) + Transmission Compressor NOx (ton NOx)

Where:

Hydrogen (MMBtu/) = Annual hydrogen demand

% H2 Stored (scf/100-scf) = Percent of annual hydrogen demand that is stored

Compression Energy (MJ/kg) = Energy required for compression (varies by storage-scenario)

Efficiency (MMBtu/100-MMBtu) = Combustion efficiency (varies by compressor-drive scenario)

Pipeline Length (mi/) = Transmission distance

H2 Consumption Per Km (MMBtu/100-MMBtu * km) = Hydrogen consumption per unit of transmission distance

NG NOx EF (ppm/) = NOx emission factor for natural gas (varies by compressor-drive scenario)

O2 Percent (scf/100-scf = Combustion oxygen percent (for equipment category)

Using the following parameter values:

Sample Emission Calculation

10-S&T_Mid (Long-Turbine-Sphere) 2035_H2

10/15/2024

Table 1. S&T Calculation Inputs

Parameter	Value	Units	Resource
Hydrogen	102,244,522.45	MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1795
% H2 Stored	13.83	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1796
Compression Energy	4.00	MJ/kg	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1797
Efficiency	51.90	MMBtu/100-MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1798
Pipeline Length	450.00	mi	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1799
H2 Consumption Per Km	0.009333	MMBtu/(100-MMBtu * km)	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1800
NG NOx EF	2.50	ppm	ALP1_NOx_S&T_1_DataPrep_SoCal Gas.xlsx, 1. Data_Prep_S&T, Cell AY1801
Correction 100%-H2 Ratio	1.370000	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (Btu-J)	1,055.06	J/Btu	https://www.unitconverters.net/energy/joule-to-btu-it.htm
Conv (J-MJ)	1,000,000.00	J/MJ	

Sample Emission Calculation

10-S&T_Mid (Long-Turbine-Sphere) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Conv (km-mi)	1.609344	km/mi	https://www.unitconverters.net/length/km-to-miles.htm
Conv (Conc-ppm)	1,000,000.000000	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-ton)	2,000.000000	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
Conv (lb-kg)	2.205000	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (kg-MT)	1,000.000000	kg/MT	
O2 Percent	15.000000	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1802
O2 Correction	3.542373	scf/scf	Calculated: 20.9/(20.9 - O2 percent)
Molar Volume @ 68 F	385.220000	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
Specific Weight H2	364.000000	scf/lb	Jahnke, 1993. Appendix A.
Fd (H2 @ 68 F)	5,975.049245	scf/MMBtu	Calculated Below
MW (NO2)	46.000000	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
Stored H2	105,254,196.04	kg	Calculated Below
Storage Compressor H2	768,876.524039	MMBtu	Calculated Below
Transmission Compressor H2	6,910,957.567000	MMBtu	Calculated Below
100%-H2 NOx EF	0.000004	ton NOx/MMBtu	Calculated Below
Storage Compressor NOx	3.327913	ton NOx	Calculated Below

Sample Emission Calculation

10-S&T_Mid (Long-Turbine-Sphere) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Transmission Compressor NOx	29.912559	ton NOx	Calculated Below

Stored Hydrogen (kg) = 102,244,522.450196 (MMBtu) x 13.8282702 (scf/100-scf) ÷ 60,920.0 (Btu/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 2.205 (lb/kg) = 105,254,196.040634 (kg)

H2 for Storage Compression (MMBtu) = 105,254,196.040634 (kg) x 4.0 (MJ/kg) x 1,000,000.0 (J/MJ) ÷ 1,055.0558526 (J/Btu) ÷ 1,000,000.0 (Btu/MMBtu) ÷ 51.9 (MMBtu/100-MMBtu) = 768,876.5240387 (MMBtu)

H2 for Transmission Compression (MMBtu) = 102,244,522.450196 (MMBtu) x 450.0 (mi) x 1.609344 (km/mi) x 0.0093333 (MMBtu/100-MMBtu * km) = 6,910,957.5669997 (MMBtu)

Fd (H2 @ 68 F) (scf/MMBtu) = 364 (scf/lb) x 1,000,000 (Btu/MMBtu) ÷ 60,920 (Btu/lb) = 5975 (scf/MMBtu)

100%-H2 NOx EF (ton/MMBtu) = 2.5 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 3.5423729 (scf/scf) ÷ 2,000.0 (lb/ton) = 0.0000043 (ton/MMBtu)

Storage Compressor NOx (ton NOx) = 768,876.5240387 (MMBtu) x 0.0000043 (ton NOx/MMBtu) = 3.3279129 (ton NOx)

Transmission Compressor NOx (ton NOx) = 6,910,957.5669997 (MMBtu) x 0.0000043 (ton NOx/MMBtu) = 29.9125595 (ton NOx)

Overall NOx (ton NOx) = 3.3279129 (ton NOx) + 29.9125595 (ton NOx) = 33.2404723 (ton NOx)

Sample Emission Calculation

11-S&T_Mid (Long-Recip-UG) 2035_H2

10/15/2024

Emissions are calculated using the following equation(s):

Stored Hydrogen (kg) = Hydrogen (MMBtu) x % H2 Stored (scf/100-scf) ÷ HHV-lb H2 (Btu/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Conv (lb-kg) (lb/kg)

H2 for Storage Compression (MMBtu) = Stored H2 (kg) x Compression Energy (MJ/kg) x Conv (J-MJ) (J/MJ) ÷ Conv (Btu-J) (J/Btu) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Efficiency (MMBtu/100-MMBtu)

H2 for Transmission Compression (MMBtu) = Hydrogen (MMBtu) x Pipeline Length (mi) x Conv (km-mi) (km/mi) x H2 Consumption Per Km (MMBtu/100-MMBtu * km)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

100%-H2 NOx EF (ton/MMBtu) = NG NOx EF (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf) ÷ Conv (lb-ton) (lb/ton)

Storage Compressor NOx (ton NOx) = Storage Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Transmission Compressor NOx (ton NOx) = Transmission Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Overall NOx (ton NOx) = Storage Compressor NOx (ton NOx) + Transmission Compressor NOx (ton NOx)

Where:

Hydrogen (MMBtu/) = Annual hydrogen demand

% H2 Stored (scf/100-scf) = Percent of annual hydrogen demand that is stored

Compression Energy (MJ/kg) = Energy required for compression (varies by storage-scenario)

Efficiency (MMBtu/100-MMBtu) = Combustion efficiency (varies by compressor-drive scenario)

Pipeline Length (mi/) = Transmission distance

H2 Consumption Per Km (MMBtu/100-MMBtu * km) = Hydrogen consumption per unit of transmission distance

NG NOx EF (ppm/) = NOx emission factor for natural gas (varies by compressor-drive scenario)

O2 Percent (scf/100-scf = Combustion oxygen percent (for equipment category)

Using the following parameter values:

Sample Emission Calculation

11-S&T_Mid (Long-Recip-UG) 2035_H2

10/15/2024

Table 1. S&T Calculation Inputs

Parameter	Value	Units	Resource
Hydrogen	102,244,522.45	MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1984
% H2 Stored	13.83	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1985
Compression Energy	14.00	MJ/kg	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1986
Efficiency	60.30	MMBtu/100-MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1987
Pipeline Length	450.00	mi	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1988
H2 Consumption Per Km	0.009333	MMBtu/(100-MMBtu * km)	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1989
NG NOx EF	11.00	ppm	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1990
Correction 100%-H2 Ratio	1.370000	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (Btu-J)	1,055.06	J/Btu	https://www.unitconverters.net/energy/joule-to-btu-it.htm
Conv (J-MJ)	1,000,000.00	J/MJ	

Sample Emission Calculation

11-S&T_Mid (Long-Recip-UG) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Conv (km-mi)	1.609344	km/mi	https://www.unitconverters.net/length/km-to-miles.htm
Conv (Conc-ppm)	1,000,000.000000	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-ton)	2,000.000000	lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
Conv (lb-kg)	2.205000	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (kg-MT)	1,000.000000	kg/MT	
O2 Percent	15.000000	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY1991
O2 Correction	3.542373	scf/scf	Calculated: 20.9/(20.9 - O2 percent)
Molar Volume @ 68 F	385.220000	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
Specific Weight H2	364.000000	scf/lb	Jahnke, 1993. Appendix A.
Fd (H2 @ 68 F)	5,975.049245	scf/MMBtu	Calculated Below
MW (NO2)	46.000000	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
Stored H2	105,254,196.04	kg	Calculated Below
Storage Compressor H2	2,316,192.712962	MMBtu	Calculated Below
Transmission Compressor H2	6,910,957.567000	MMBtu	Calculated Below
100%-H2 NOx EF	0.000019	ton NOx/MMBtu	Calculated Below
Storage Compressor NOx	44.110575	ton NOx	Calculated Below

Sample Emission Calculation

11-S&T_Mid (Long-Recip-UG) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Transmission Compressor NOx	131.615262	ton NOx	Calculated Below

Stored Hydrogen (kg) = 102,244,522.450196 (MMBtu) x 13.8282702 (scf/100-scf) ÷ 60,920.0 (Btu/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 2.205 (lb/kg) = 105,254,196.040634 (kg)

H2 for Storage Compression (MMBtu) = 105,254,196.040634 (kg) x 14.0 (MJ/kg) x 1,000,000.0 (J/MJ) ÷ 1,055.0558526 (J/Btu) ÷ 1,000,000.0 (Btu/MMBtu) ÷ 60.3 (MMBtu/100-MMBtu) = 2,316,192.7129623 (MMBtu)

H2 for Transmission Compression (MMBtu) = 102,244,522.450196 (MMBtu) x 450.0 (mi) x 1.609344 (km/mi) x 0.0093333 (MMBtu/100-MMBtu * km) = 6,910,957.5669997 (MMBtu)

Fd (H2 @ 68 F) (scf/MMBtu) = 364 (scf/lb) x 1,000,000 (Btu/MMBtu) ÷ 60,920 (Btu/lb) = 5975 (scf/MMBtu)

100%-H2 NOx EF (ton/MMBtu) = 11.0 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 3.5423729 (scf/scf) ÷ 2,000.0 (lb/ton) = 0.000019 (ton/MMBtu)

Storage Compressor NOx (ton NOx) = 2,316,192.7129623 (MMBtu) x 0.000019 (ton NOx/MMBtu) = 44.1105747 (ton NOx)

Transmission Compressor NOx (ton NOx) = 6,910,957.5669997 (MMBtu) x 0.000019 (ton NOx/MMBtu) = 131.6152616 (ton NOx)

Overall NOx (ton NOx) = 44.1105747 (ton NOx) + 131.6152616 (ton NOx) = 175.7258363 (ton NOx)

Sample Emission Calculation

12-S&T_Mid (Long-Recip-Sphere) 2035_H2

10/15/2024

Emissions are calculated using the following equation(s):

Stored Hydrogen (kg) = Hydrogen (MMBtu) x % H2 Stored (scf/100-scf) ÷ HHV-lb H2 (Btu/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Conv (lb-kg) (lb/kg)

H2 for Storage Compression (MMBtu) = Stored H2 (kg) x Compression Energy (MJ/kg) x Conv (J-MJ) (J/MJ) ÷ Conv (Btu-J) (J/Btu) ÷ Conv (Btu-MMBtu) (Btu/MMBtu) ÷ Efficiency (MMBtu/100-MMBtu)

H2 for Transmission Compression (MMBtu) = Hydrogen (MMBtu) x Pipeline Length (mi) x Conv (km-mi) (km/mi) x H2 Consumption Per Km (MMBtu/100-MMBtu * km)

Fd (H2 @ 68 F) (scf/MMBtu) = Specific Weight H2 (scf/lb) x Conv (Btu-MMBtu) (Btu/MMBtu) ÷ HHV-lb H2 (Btu/lb)

100%-H2 NOx EF (ton/MMBtu) = NG NOx EF (ppm) x Correction 100%-H2 Ratio (ppm/ppm) ÷ Conv (Conc-ppm) (scf-ppm/scf) ÷ Molar Volume @ 68 F (scf/pmole) x MW (NO2) (lb/pmole) x Fd (H2 @ 68 F) (scf/MMBtu) x O2 Correction (scf/scf) ÷ Conv (lb-ton) (lb/ton)

Storage Compressor NOx (ton NOx) = Storage Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Transmission Compressor NOx (ton NOx) = Transmission Compressor H2 (MMBtu) x 100%-H2 NOx EF (ton NOx/MMBtu)

Overall NOx (ton NOx) = Storage Compressor NOx (ton NOx) + Transmission Compressor NOx (ton NOx)

Where:

Hydrogen (MMBtu/) = Annual hydrogen demand

% H2 Stored (scf/100-scf) = Percent of annual hydrogen demand that is stored

Compression Energy (MJ/kg) = Energy required for compression (varies by storage-scenario)

Efficiency (MMBtu/100-MMBtu) = Combustion efficiency (varies by compressor-drive scenario)

Pipeline Length (mi/) = Transmission distance

H2 Consumption Per Km (MMBtu/100-MMBtu * km) = Hydrogen consumption per unit of transmission distance

NG NOx EF (ppm/) = NOx emission factor for natural gas (varies by compressor-drive scenario)

O2 Percent (scf/100-scf = Combustion oxygen percent (for equipment category)

Using the following parameter values:

Sample Emission Calculation

12-S&T_Mid (Long-Recip-Sphere) 2035_H2

10/15/2024

Table 1. S&T Calculation Inputs

Parameter	Value	Units	Resource
Hydrogen	102,244,522.45	MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2173
% H2 Stored	13.83	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2174
Compression Energy	4.00	MJ/kg	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2175
Efficiency	60.30	MMBtu/100-MMBtu	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2176
Pipeline Length	450.00	mi	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2177
H2 Consumption Per Km	0.009333	MMBtu/(100-MMBtu * km)	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2178
NG NOx EF	11.00	ppm	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2179
Correction 100%-H2 Ratio	1.370000	ppm/ppm	https://research.gatech.edu/sites/default/files/inline-files/gt_epri_nox_emission_h2_short_paper.pdf
Conv (Btu-MMBtu)	1,000,000.00	Btu/MMBtu	http://www.endmemo.com/sconvert/btummbtu.php#:~:text=Btu%E2%86%94MMBtu%201%20MMBtu%20%3D%201000000%20Btu
Conv (lb-kg)	2.21	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (Btu-J)	1,055.06	J/Btu	https://www.unitconverters.net/energy/joule-to-btu-it.htm
Conv (J-MJ)	1,000,000.00	J/MJ	

Sample Emission Calculation

12-S&T_Mid (Long-Recip-Sphere) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Conv (km-mi)	1.609344	km/mi	https://www.unitconverters.net/length/km-to-miles.htm
Conv (Conc-ppm)	1,000,000.000000	scf-ppm/scf	https://www.omnicalculator.com/conversion/ppm
Conv (lb-ton)	2,000.000000	Lb/ton	https://www.unitconverters.net/weight-and-mass/ton-to-lbs.htm
Conv (lb-kg)	2.205000	lb/kg	https://www.unitconverters.net/weight-and-mass/kg-to-lbs.htm
Conv (kg-MT)	1,000.000000	kg/MT	
O2 Percent	15.000000	scf/100-scf	ALP1_NOx_S&T_1_DataPrep_SoCalGas.xlsx, 1. Data_Prep_S&T, Cell AY2180
O2 Correction	3.542373	scf/scf	Calculated: 20.9/(20.9 - O2 percent)
Molar Volume @ 68 F	385.220000	scf/pmole	https://stantec.sharepoint.com/sites/AtmosphericSciences-ES/Shared%20Documents/Shared%20Content%20and%20Examples/Emissions%20Management%20Tool/Calculation%20Sheets%20for%20Import/EQ%20Molar%20Volume.xlsm
HHV-lb H2	60,920.00	Btu/lb	https://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
Specific Weight H2	364.000000	scf/lb	Jahnke, 1993. Appendix A.
Fd (H2 @ 68 F)	5,975.049245	scf/MMBtu	Calculated Below
MW (NO2)	46.000000	lb/pmole	https://pubchem.ncbi.nlm.nih.gov/compound/Nitrogen-dioxide
Stored H2	105,254,196.04	kg	Calculated Below
Storage Compressor H2	661,769.346561	MMBtu	Calculated Below
Transmission Compressor H2	6,910,957.567000	MMBtu	Calculated Below
100%-H2 NOx EF	0.000019	ton NOx/MMBtu	Calculated Below
Storage Compressor NOx	12.603021	ton NOx	Calculated Below

Sample Emission Calculation

12-S&T_Mid (Long-Recip-Sphere) 2035_H2

10/15/2024

Parameter	Value	Units	Resource
Transmission Compressor NOx	131.615262	ton NOx	Calculated Below

Stored Hydrogen (kg) = 102,244,522.450196 (MMBtu) x 13.8282702 (scf/100-scf) ÷ 60,920.0 (Btu/lb) x 1,000,000.0 (Btu/MMBtu) ÷ 2.205 (lb/kg) = 105,254,196.040634 (kg)

H2 for Storage Compression (MMBtu) = 105,254,196.040634 (kg) x 4.0 (MJ/kg) x 1,000,000.0 (J/MJ) ÷ 1,055.0558526 (J/Btu) ÷ 1,000,000.0 (Btu/MMBtu) ÷ 60.3 (MMBtu/100-MMBtu) = 661,769.3465607 (MMBtu)

H2 for Transmission Compression (MMBtu) = 102,244,522.450196 (MMBtu) x 450.0 (mi) x 1.609344 (km/mi) x 0.0093333 (MMBtu/100-MMBtu * km) = 6,910,957.5669997 (MMBtu)

Fd (H2 @ 68 F) (scf/MMBtu) = 364 (scf/lb) x 1,000,000 (Btu/MMBtu) ÷ 60,920 (Btu/lb) = 5975 (scf/MMBtu)

100%-H2 NOx EF (ton/MMBtu) = 11.0 (ppm) x 1.37 (ppm/ppm) ÷ 1,000,000.0 (scf-ppm/scf) ÷ 385.22 (scf/pmole) x 46.0 (lb/pmole) x 5,975.0492449 (scf/MMBtu) x 3.5423729 (scf/scf) ÷ 2,000.0 (lb/ton) = 0.000019 (ton/MMBtu)

Storage Compressor NOx (ton NOx) = 661,769.3465607 (MMBtu) x 0.000019 (ton NOx/MMBtu) = 12.6030213 (ton NOx)

Transmission Compressor NOx (ton NOx) = 6,910,957.5669997 (MMBtu) x 0.000019 (ton NOx/MMBtu) = 131.6152616 (ton NOx)

Overall NOx (ton NOx) = 12.6030213 (ton NOx) + 131.6152616 (ton NOx) = 144.2182829 (ton NOx)

Appendix D.7:

PM and VOC

NOx Results, Calculations, and Data

	B	C	D	E	F	G	H	I	J	K	L	M	N
1													
2	**Tab Contents**												
3	This tab contains various summary tables of the results from tabs throughout this workbook.												
4													
70													
71		**Market Demand - Conservative Scenario**											
72		**Diesel DPM (PM2.5)**		**Gasoline PM2.5**		**Natural Gas PM2.5**		**Diesel PM10**		**Gasoline PM10**		**Natural Gas PM10**	
73		**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**	**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**
74	**2030**	22.35	3.51	8.71	23.24	22.64	2.59	49.97	3.82	25.18	30.28	22.64	2.59
75	**2035**	113.55	10.74	31.04	127.91	36.54	38.20	257.54	11.76	89.60	168.06	36.54	38.20
76	**2040**	240.62	17.22	70.28	240.30	46.15	118.04	551.26	18.86	202.48	315.57	46.15	118.04
77	**2045**	399.88	22.34	105.26	327.23	53.89	249.51	919.14	24.49	302.68	429.15	53.89	249.51
78													
79													
80		**Market Demand - Ambitious Scenario**											
81		**Diesel DPM (PM2.5)**		**Gasoline PM2.5**		**Natural Gas PM2.5**		**Diesel PM10**		**Gasoline PM10**		**Natural Gas PM10**	
82		**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**	**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**
83	**2030**	127.30	10.39	32.61	87.89	76.54	9.78	285.06	11.36	94.28	115.51	76.54	9.78
84	**2035**	297.68	20.56	61.63	203.84	130.43	144.32	674.84	22.49	177.89	267.36	130.43	144.32
85	**2040**	477.47	26.19	102.33	307.24	169.14	445.90	1092.53	28.63	294.82	402.61	169.14	445.90
86	**2045**	626.57	29.80	139.08	400.16	201.20	942.56	1438.86	32.63	399.92	524.22	201.20	942.56
87			656.38										
88													
89		**Angeles Link - Low Throughput Scenario**											
90		**Diesel DPM (PM2.5)**		**Gasoline PM2.5**		**Natural Gas PM2.5**		**Diesel PM10**		**Gasoline PM10**		**Natural Gas PM10**	
91		**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**	**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**
92	**2030**	6.0	0.9	2.3	6.2	6.1	0.7	13.4	1.0	6.8	8.1	6.1	0.7
93	**2035**	30.5	2.9	8.3	34.3	9.8	10.3	69.1	3.2	24.1	45.1	9.8	10.3
94	**2040**	64.6	4.6	18.9	64.5	12.4	31.7	148.0	5.1	54.4	84.7	12.4	31.7
95	**2045**	107.4	6.0	28.3	87.9	14.5	67.0	246.8	6.6	81.3	115.2	14.5	67.0
96													
97													
98		**Angeles Link - High Throughput Scenario**											
99		**Diesel DPM (PM2.5)**		**Gasoline PM2.5**		**Natural Gas PM2.5**		**Diesel PM10**		**Gasoline PM10**		**Natural Gas PM10**	
100		**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**	**Mobility On-Road**	**Mobility Off-Road**	**Mobility On-Road**	**Mobility Off-Road**	**Industrial**	**Power Gen**
101	**2030**	32.3	2.6	8.3	22.3	19.4	2.5	72.3	2.9	23.9	29.3	19.4	2.5
102	**2035**	75.5	5.2	15.6	51.7	33.1	36.6	171.1	5.7	45.1	67.8	33.1	36.6
103	**2040**	121.1	6.6	26.0	77.9	42.9	113.1	277.1	7.3	74.8	102.1	42.9	113.1
104	**2045**	158.9	7.6	35.3	101.5	51.0	239.0	364.9	8.3	101.4	132.9	51.0	239.0

Tab Contents

This tab multiplies the volume of diesel and gasoline displaced by FCEVs for the full market in the geographic region of this study (as projected by the Demand Study) by the emissions factors (as calculated in the workbook "ALP1_NOx_PMVOC_1_EMFAC_DataPull_SoCalGas.xlsx" and summarized on the tab "SubsectorEFs") as developed from the EMFAC model data to estimate the VOC and PM emissions reductions associated with displacing that volume of fossil fuels. Fossil fuel displacement volumes copied from "2023-11 Updated Demand Study Displacement Volumes.xlsx". This tab also includes tables and summarized data used within the report to illustrate the VOC and PM emission reduction results. These tables begin in column AK.

$$\textbf{Emission Reduction}\left(\frac{\textbf{ton}}{\textbf{year}}\right) = \textbf{Emission Factor}\left(\frac{\textbf{ton}}{\textbf{gal}}\right) * \textbf{Fuel Displaced by FCEV}\left(\frac{\textbf{gal}}{\textbf{year}}\right)$$

Emission Redution	Showns in columns N through V, Z through AH
Emission Factor (ton/gal)	Shown in columns E through J
Fuel Displaced by FCEV (gal/yr)	Showns in columns K through M, W through Y

Example Calculation MDV, Year 2030, Conservative Diesel Displacement, PM2.5

$$\mathbf{3.11}\left(\frac{\textbf{ton}}{\textbf{year}}\right) = \mathbf{6.17 * 10^{-7}}\left(\frac{\textbf{ton}}{\textbf{gal}}\right) * \mathbf{5,031,776.7}\left(\frac{\textbf{gal}}{\textbf{year}}\right)$$

Emission Reduction	3.11	
Emission Factor (ton/gal)	6.17E-07	Cell E23
Fuel Displaced by FCEV (gal	5,031,766.7	Cell K23

	B	C	D	E	F	G	K	L	M	N	O	P	Q	R	S	T	U	V
16										**PM / VOC (ton) = EF (ton/gal) * Gallons Fuel**								
17	**Onroad vs. Offroad**	**Subsector**	**Year**	**Diesel PM2.5 ton/gal**	**Diesel PM10 ton/gal**	**Diesel ROG ton/gal**	**Conservative Demand - Diesel Displacement (no BEV) (gal)**	**Med Demand - Diesel Displacement (no BEV) (gal)**	**Ambitious Demand - Diesel Displacement (no BEV) (gal)**	**Conservative Diesel PM2.5 (ton)**	**Moderate Diesel PM2.5 (ton)**	**Ambitious Diesel PM2.5 (ton)**	**Conservative Diesel PM10 (ton)**	**Moderate Diesel PM10 (ton)**	**Ambitious Diesel PM10 (ton)**	**Conservative Diesel VOC (ton)**	**Moderate Diesel VOC (ton)**	**Ambitious Diesel VOC (ton)**
23	Onroad	MDV	2030	6.1737E-07	1.4016E-06	8.6528E-07	5031766.709	10607517.29	19960996.51	3.106454144	6.548746785	12.32328999	7.052595695	14.86764692	27.97761625	4.353879833	9.178457249	17.27182224
24	Onroad	MDV	2031	6.0953E-07	1.3967E-06	8.2915E-07	7029232.574	13466269.78	24655434.03	4.284541088	8.208120238	15.02827215	9.817597347	18.80808652	34.43578245	5.828257241	11.1654983	20.44294458
25	Onroad	MDV	2032	6.0358E-07	1.3935E-06	7.9933E-07	9640199.407	16888985.35	29637297.53	5.818588769	10.19377881	17.8883485	13.43317419	23.53402378	41.29821007	7.705700939	13.49987327	23.68998211
26	Onroad	MDV	2033	5.9877E-07	1.3913E-06	7.7122E-07	12931915.16	20925108.28	34887369.99	7.743302026	12.52942285	20.88967019	17.99219765	29.11314212	48.53886284	9.973341549	16.13784572	26.90581034
27	Onroad	MDV	2034	5.9505E-07	1.3895E-06	7.5082E-07	16963221.29	25616590.29	40382047.98	10.09389443	15.24304574	24.02917006	23.56996197	35.5935968	56.10982246	12.7363578	19.23349664	30.31972542
28	Onroad	MDV	2035	5.9057E-07	1.3859E-06	7.2976E-07	21766190.95	30973547.03	46060831.16	12.85441819	18.29198904	27.20205788	30.16629591	42.92699568	63.83683142	15.88417954	22.60337525	33.61352997
29	Onroad	MDV	2036	5.8693E-07	1.3835E-06	7.1015E-07	26509629.84	36150217.29	51412555.51	15.5592757	21.21761793	30.17552981	36.67673041	50.01472226	71.13054575	18.82571756	25.6719458	36.51043998
30	Onroad	MDV	2037	5.8237E-07	1.3793E-06	6.8906E-07	31167907.1	41130498	56454446.64	18.15126329	23.9531803	32.87739281	42.9902097	56.73171215	77.86818959	21.47665336	28.34150671	38.90067361
31	Onroad	MDV	2038	5.7784E-07	1.3757E-06	6.6482E-07	35796603.28	45980269.65	61264370.88	20.68453043	26.56900934	35.40069804	49.24714772	63.25731841	84.28440819	23.79822099	30.56850421	40.7296476
32	Onroad	MDV	2039	5.7308E-07	1.3707E-06	6.4561E-07	40421931.2	50729595.72	65875454	23.16489434	29.0719837	37.75173245	55.40464694	69.53293069	90.29272385	26.09671922	32.75142914	42.52971532
33	Onroad	MDV	2040	5.6829E-07	1.3652E-06	6.276E-07	45081694.63	55421796.43	70336039.98	25.61967326	31.4958949	39.97157555	61.54674829	75.66333482	96.02466332	28.29321677	34.7826521	44.14281323
34	Onroad	MDV	2041	5.6399E-07	1.36E-06	6.1223E-07	49833665.49	60238170.41	74973896.08	28.10561583	33.97363728	42.28441756	67.77588251	81.9264471	101.9676542	30.50964589	36.87959194	45.90123961
35	Onroad	MDV	2042	5.5936E-07	1.3541E-06	5.9718E-07	54671508.88	65177192.78	79792207.13	30.58081226	36.45722492	44.6322144	74.03306621	88.25926935	108.0500954	32.64849412	38.92223278	47.64996354
36	Onroad	MDV	2043	5.5504E-07	1.3482E-06	5.8489E-07	59609682.92	70253378.98	84804457.91	33.08571112	38.99337974	47.06979905	80.36859042	94.71892425	114.3373762	34.86523345	41.09064733	49.60145865
37	Onroad	MDV	2044	5.4987E-07	1.3408E-06	5.6977E-07	64586031.21	75396584.6	89930611.4	35.51393255	41.45833348	49.4501614	86.5983803	101.0934096	120.5809544	36.79900136	42.95849997	51.23951154
38	Onroad	MDV	2045	5.4493E-07	1.3332E-06	5.5653E-07	69657271.45	80667539.66	95234846.31	37.95807872	43.95786335	51.89597177	92.8688974	107.5480751	126.9695896	38.76626817	44.89379802	53.00092172
44	Onroad	HDV	2030	4.7494E-07	1.0667E-06	4.3016E-07	38033416.37	114100249.1	232615673.2	18.06359458	54.19078373	110.4785111	40.56835118	121.7050535	248.1195543	16.36031522	49.08094567	100.0611068
45	Onroad	HDV	2031	4.8319E-07	1.0867E-06	4.3429E-07	50792817.43	138107864.6	276666771.9	24.54247925	66.73206122	133.6820608	55.194021	150.0749272	300.63998	22.05863654	59.97838559	120.1526529
46	Onroad	HDV	2032	4.9064E-07	1.1052E-06	4.3811E-07	71914221.89	170610255.2	326947395.1	35.28403894	83.70832261	160.413675	79.48092265	188.5615965	361.3482833	31.50617655	74.7456717	143.2381813
47	Onroad	HDV	2033	4.9767E-07	1.1221E-06	4.4133E-07	102002336.5	212170882.6	383779180.8	50.76345044	105.5909742	190.9951878	114.457641	238.0786512	430.6417007	45.01708505	93.63819487	169.3747477
48	Onroad	HDV	2034	5.0379E-07	1.1378E-06	4.4414E-07	141726487.8	263461608.6	447690250.9	71.39999889	132.7286018	225.5406446	161.2544304	299.7629611	509.3757529	62.94678757	117.0145551	198.8383651
49	Onroad	HDV	2035	5.0922E-07	1.1518E-06	4.4652E-07	191736336.7	325085848.2	519060659.8	97.63552864	165.5394548	264.3148544	220.8350498	374.4222441	597.8354891	85.61428511	145.1576314	231.7714424
50	Onroad	HDV	2036	5.1376E-07	1.1644E-06	4.4986E-07	238749948.6	382976332.4	585938823.1	122.660236	196.7580207	301.0320829	277.9886146	445.9186723	682.2381435	107.4045866	172.2865907	263.5917514
51	Onroad	HDV	2037	5.1801E-07	1.1752E-06	4.5286E-07	282773595.4	437246215.3	648820363.2	146.4798058	226.4983073	336.096023	332.3083403	513.840636	762.4771957	128.0581996	198.0134074	293.8278855

	A	B	C	D	E	F	G	K	L	M	N	O	P	Q	R	S	T	U	V
17		Onroad vs. Offroad	Subsector	Year	Diesel PM2.5 ton/gal	Diesel PM10 ton/gal	Diesel ROG ton/gal	Conservative Demand - Diesel Displacement (no BEV) (gal)	Med Demand - Diesel Displacement (no BEV) (gal)	Ambitious Demand - Diesel Displacement (no BEV) (gal)	Conservative Diesel PM2.5 (ton)	Moderate Diesel PM2.5 (ton)	Ambitious Diesel PM2.5 (ton)	Conservative Diesel PM10 (ton)	Moderate Diesel PM10 (ton)	Ambitious Diesel PM10 (ton)	Conservative Diesel VOC (ton)	Moderate Diesel VOC (ton)	Ambitious Diesel VOC (ton)
52		Onroad	HDV	2038	5.2075E-07	1.1843E-06	4.5553E-07	324175243	488373158.7	708297214.6	168.8130337	254.3184783	368.8430999	383.931211	578.396106	838.8592688	147.6713099	222.4682656	322.650109
53		Onroad	HDV	2039	5.2366E-07	1.1919E-06	4.5799E-07	363293773.9	536793888.2	764886415.3	190.2428731	281.0981604	400.5413791	433.0123847	639.8083818	911.6734569	166.3864366	245.8484804	350.313532
54		Onroad	HDV	2040	5.2604E-07	1.1982E-06	4.6028E-07	400487520.8	582975786.5	819150320.8	210.6731949	306.6696591	430.9073472	479.8461199	698.4953453	981.4690412	184.3348052	268.3297792	377.0352556
55		Onroad	HDV	2041	5.2795E-07	1.2032E-06	4.6241E-07	443030681	631147953.9	871561903.1	233.8992413	333.2162621	460.1434542	533.0671447	759.4152098	1048.688127	204.861071	291.8480623	403.0174716
56		Onroad	HDV	2042	5.2951E-07	1.2073E-06	4.6432E-07	491415703.5	681633512.4	922210153.5	260.2083472	360.9301217	488.3172803	593.3081161	822.9665683	1113.425487	228.1741165	316.4960406	428.2005754
57		Onroad	HDV	2043	5.308E-07	1.2107E-06	4.6608E-07	545543650.4	734527472.9	971401118.5	289.5759551	389.889048	515.6221807	660.4916636	889.2950586	1176.078835	254.2682969	342.3503314	452.75297
58		Onroad	HDV	2044	5.3193E-07	1.2135E-06	4.6772E-07	605185543.7	789787785.6	1019298702	321.914141	420.1089389	542.1918441	734.4015424	958.4190732	1236.933939	283.0566686	369.3986114	476.7451863
59		Onroad	HDV	2045	5.3293E-07	1.2159E-06	4.6921E-07	670094104.6	847329791.5	1065997551	357.1150325	451.5697182	568.1049086	814.7747987	1030.277621	1296.158157	314.4139588	397.5744784	500.1752854
65		Onroad	Bus	2030	4.2866E-07	8.549E-07	6.219E-07	2744478.517	5668100.972	10487814.17	1.176437623	2.429666399	4.495666151	2.346244048	4.845637555	8.965991685	1.706782865	3.524974802	6.522339817
66		Onroad	Bus	2031	4.2119E-07	8.5021E-07	5.973E-07	3563454.404	6613998.314	11860862.13	1.500906122	2.785777349	4.995725653	3.0296967	5.623310022	10.08426397	2.128438246	3.950516934	7.084449444
67		Onroad	Bus	2032	4.1307E-07	8.4464E-07	5.7E-07	4500173.878	7613987.742	13086957.27	1.858886029	3.145108572	5.405827128	3.801014236	6.431057239	11.05373086	2.565079224	4.339939365	7.459507809
68		Onroad	Bus	2033	4.0395E-07	8.385E-07	5.4087E-07	5531519.125	8646954.601	14153826.6	2.234455557	3.49293482	5.717434177	4.638180392	7.250473944	11.86798771	2.991855037	4.676913176	7.655437221
69		Onroad	Bus	2034	3.9473E-07	8.3246E-07	5.12E-07	6675698.621	9741178.179	15114636.74	2.635099436	3.845136603	5.966202641	5.557257057	8.109148458	12.58234178	3.417964288	4.987492849	7.738708939
70		Onroad	Bus	2035	3.853E-07	8.2384E-07	4.8346E-07	7933439.622	10900931.21	15984683.06	3.056724609	4.200088016	6.158838587	6.535877842	8.980613471	13.16880707	3.835474439	5.270128091	7.727901921
71		Onroad	Bus	2036	3.7787E-07	8.1938E-07	4.5948E-07	9055752.829	11926372.11	16729011.72	3.421905835	4.50662944	6.321407383	7.420143322	9.772284207	13.70749256	4.160973406	5.479976994	7.686712985
72		Onroad	Bus	2037	3.706E-07	8.1479E-07	4.36E-07	10048537.22	12829033.6	17374029.48	3.723972143	4.754419744	6.438788091	8.187449452	10.4529706	14.15618861	4.381134809	5.593423644	7.575029444
73		Onroad	Bus	2038	3.6391E-07	8.1053E-07	4.133E-07	10913327.34	13609162.09	17917764.16	3.971422678	4.952452469	6.520377579	8.845551875	11.03060006	14.5228405	4.51044029	5.624619428	7.4053497
74		Onroad	Bus	2039	3.5812E-07	8.0744E-07	3.9009E-07	11663397.14	14279693.9	18371425.25	4.17689232	5.113839738	6.579169354	9.417502658	11.53000739	14.83383821	4.549734356	5.570316533	7.1664459
75		Onroad	Bus	2040	3.5186E-07	8.0225E-07	3.6589E-07	12304307.5	14845125.92	18736986.59	4.329432321	5.223452677	6.592855007	9.871080296	11.90944146	15.03167074	4.501993469	5.431647406	6.855630941
76		Onroad	Bus	2041	3.4701E-07	7.988E-07	3.4503E-07	12816665.42	15282708.64	18986819.92	4.447536972	5.303283616	6.588654757	10.23790703	12.20777364	15.16660463	4.422174871	5.273041616	6.551082921
77		Onroad	Bus	2042	3.4091E-07	7.9424E-07	3.2047E-07	13320049.72	15722824.78	19262225.97	4.540948537	5.360080456	6.566700478	10.57936853	12.48775801	15.2989059	4.268715389	5.038739757	6.173022037
78		Onroad	Bus	2043	3.3476E-07	7.8687E-07	2.9917E-07	13844575.55	16196756.27	19594233.04	4.634562601	5.421970546	6.55929821	10.89390762	12.74477256	15.4181516	4.141814022	4.845504435	5.86191096
79		Onroad	Bus	2044	3.3038E-07	7.8371E-07	2.8248E-07	14304309.15	16608857.92	19875578.06	4.72587184	5.487250947	6.566513185	11.21045445	13.01655629	15.57672308	4.04064136	4.69162387	5.614397865
80		Onroad	Bus	2045	3.2687E-07	7.8224E-07	2.6902E-07	14702431.75	16962215.14	20108889.31	4.805744717	5.544394095	6.572939104	11.50086199	13.26855983	15.73002104	3.955289817	4.563223142	5.409750337
86		Offroad	Agriculture	2030	2.4805E-06	2.6962E-06	7.9935E-06	643716.9169	1050912.112	1603918.037	1.59676324	2.60682574	3.978577065	1.735612216	2.833506237	4.324540284	5.145519352	8.400414012	12.82083954
87		Offroad	Agriculture	2031	2.3396E-06	2.543E-06	7.6978E-06	904579.6547	1445117.634	2177588.718	2.116345944	3.38098345	5.094665822	2.300376026	3.674982012	5.537680242	6.96322891	11.12415566	16.76253565
88		Offroad	Agriculture	2032	2.2068E-06	2.3987E-06	7.4181E-06	1181297.911	1874193.655	2802565.584	2.60687359	4.135947332	6.184666999	2.833558248	4.495594923	6.722464125	8.762945106	13.90289103	20.78961467
89		Offroad	Agriculture	2033	2.0801E-06	2.261E-06	7.1496E-06	1472133.46	2336580.148	3476497.072	3.062195611	4.860337509	7.231487067	3.328473487	5.282975548	7.860312022	10.52511289	16.7055301	24.8554395
90		Offroad	Agriculture	2034	1.9606E-06	2.1311E-06	6.896E-06	1775672.499	2830904.078	4197236.608	3.481430748	5.550345859	8.229213773	3.784163855	6.032984628	8.944797578	12.24505127	19.52193639	28.94417608
91		Offroad	Agriculture	2035	1.8448E-06	2.0052E-06	6.6489E-06	2090610.017	3355811.096	4962672.291	3.856756492	6.19079892	9.155135786	4.192126623	6.729129261	9.951234551	13.90025885	22.31245546	32.99631632
92		Offroad	Agriculture	2036	1.736E-06	1.887E-06	6.4168E-06	2495690.824	3937074.547	5743050.091	4.332596655	6.834883491	9.970113033	4.70934419	7.429221185	10.83707938	16.0143009	25.26334426	36.85189341
93		Offroad	Agriculture	2037	1.6301E-06	1.7719E-06	6.1913E-06	2998839.806	4576483.187	6533296.441	4.888536562	7.460320268	10.65020494	5.313626698	8.10904377	11.57630972	18.56674129	28.3344176	40.44965142
94		Offroad	Agriculture	2038	1.5327E-06	1.6659E-06	5.9833E-06	3602256.87	5273962.185	7330576.196	5.521064067	8.083233418	11.23534003	6.001156591	8.786123275	12.21232612	21.55324319	31.55549248	43.86075097
95		Offroad	Agriculture	2039	1.4396E-06	1.5648E-06	5.7827E-06	4307193.043	6029125.811	8132477.847	6.200794723	8.679752946	11.70781648	6.739994267	9.434514076	12.72588749	24.90700244	34.86434199	47.02729679
96		Offroad	Agriculture	2040	1.3514E-06	1.4689E-06	5.5936E-06	5114374.977	6841403.567	8936819.334	6.911437088	9.245299877	12.07699179	7.512431619	10.049239	13.12716499	28.60790663	38.2682606	49.98923509
97		Offroad	Agriculture	2041	1.2703E-06	1.3808E-06	5.4187E-06	5922870.908	7654398.724	9741612.146	7.523899906	9.723482199	12.37489654	8.178152071	10.56900239	13.4509745	32.09402661	41.47658798	52.78648889
98		Offroad	Agriculture	2042	1.1907E-06	1.2943E-06	5.2455E-06	6725068.044	8463119.07	10545046.09	8.007749251	10.07730107	12.55631681	8.704075276	10.95358812	13.64817045	35.27620274	44.39311278	55.31381709
99		Offroad	Agriculture	2043	1.1183E-06	1.2155E-06	5.088E-06	7520133.63	9266375.252	11345477.23	8.409680487	10.36248277	12.68751902	9.140957046	11.26356822	13.79078153	38.26254351	47.14744494	57.72594442
100		Offroad	Agriculture	2044	1.0495E-06	1.1407E-06	4.9368E-06	8307760.225	10063335.81	12141416.69	8.718625294	10.56102388	12.74187745	9.476766625	11.47937378	13.8498668	41.01384714	49.68079307	59.93988691
101		Offroad	Agriculture	2045	9.8537E-07	1.0711E-06	4.7979E-06	9087681.382	10853256.07	12931519.91	8.954717989	10.69446026	12.74231667	9.733389117	11.62441332	13.8503442	43.60156224	52.07256948	62.04382025
107		Offroad	CHC	2030	1.0052E-06	1.0514E-06	4.1022E-06	200855.3186	251069.1483	255128.8149	0.20189586	0.252369825	0.256450523	0.211188138	0.263985172	0.268253685	0.823947338	1.029934173	1.04658771
108		Offroad	CHC	2031	7.2096E-07	7.5414E-07	3.3085E-06	327573.7288	410675.8517	433747.497	0.23616764	0.296080968	0.312714707	0.24703728	0.309708125	0.327107434	1.083777009	1.358720211	1.435052703
109		Offroad	CHC	2032	5.1175E-07	5.3531E-07	2.8318E-06	447081.8798	562459.6339	613272.564	0.228795128	0.287839946	0.313843574	0.239325448	0.30108781	0.328288257	1.266047811	1.592774881	1.736667089
110		Offroad	CHC	2033	3.9053E-07	4.0851E-07	2.5937E-06	557720.2441	704146.4734	789756.6581	0.217807297	0.274991345	0.308424815	0.227831901	0.28764785	0.322620099	1.446540274	1.826321069	2.048365331

	A	B	C	D	E	F	G	K	L	M	N	O	P	Q	R	S	T	U	V
17		Onroad vs. Offroad	Subsector	Year	Diesel PM2.5 ton/gal	Diesel PM10 ton/gal	Diesel ROG ton/gal	Conservative Demand - Diesel Displacement (no BEV) (gal)	Med Demand - Diesel Displacement (no BEV) (gal)	Ambitious Demand - Diesel Displacement (no BEV) (gal)	Conservative Diesel PM2.5 (ton)	Moderate Diesel PM2.5 (ton)	Ambitious Diesel PM2.5 (ton)	Conservative Diesel PM10 (ton)	Moderate Diesel PM10 (ton)	Ambitious Diesel PM10 (ton)	Conservative Diesel VOC (ton)	Moderate Diesel VOC (ton)	Ambitious Diesel VOC (ton)
111		Offroad	CHC	2034	3.3593E-07	3.5139E-07	2.5056E-06	660675.7722	837024.2333	963046.4338	0.221938691	0.281178863	0.323513097	0.232153443	0.29412015	0.338402821	1.655402394	2.097264616	2.413028355
112		Offroad	CHC	2035	3.378E-07	3.5335E-07	2.5141E-06	1804775.535	2306876.034	2823390.448	0.609661723	0.77927365	0.953754665	0.637721468	0.815139801	0.997651323	4.537400354	5.799735165	7.09830811
113		Offroad	CHC	2036	3.3956E-07	3.5519E-07	2.5218E-06	2921020.245	3740861.64	4637710.642	0.991856963	1.270240996	1.574773609	1.037507284	1.328703971	1.647252729	7.366207979	9.433678149	11.69534555
114		Offroad	CHC	2037	3.4119E-07	3.5689E-07	2.5287E-06	3827319.636	4905172.853	6111131.39	1.305826471	1.673574503	2.085030229	1.365927271	1.750600944	2.180993963	9.678200987	12.4037847	15.45331027
115		Offroad	CHC	2038	3.4265E-07	3.5842E-07	2.5345E-06	4529332.241	5807091.368	7252959.534	1.551987774	1.989815347	2.485245931	1.623418174	2.081396807	2.599629635	11.47980467	14.71834502	18.3829656
116		Offroad	CHC	2039	3.4391E-07	3.5974E-07	2.539E-06	5065830.833	6496415.377	8126101.074	1.742183482	2.234174006	2.794637155	1.822367659	2.337002098	2.923260622	12.86192255	16.49411403	20.63181462
117		Offroad	CHC	2040	3.4499E-07	3.6086E-07	2.5417E-06	5474415.026	7021434.1	8791539.056	1.888600084	2.422301007	3.03296358	1.9755231	2.533787664	3.172556046	13.914166	17.84618067	22.34520642
118		Offroad	CHC	2041	3.458E-07	3.6171E-07	2.5427E-06	5864370.484	7464443.095	9298286.382	2.027871262	2.581168717	3.215302954	2.121204249	2.699967277	3.363287609	14.91141966	18.97994743	23.64288729
119		Offroad	CHC	2042	3.4642E-07	3.6236E-07	2.5422E-06	6257481.219	7854372.765	9683789.58	2.167703978	2.720895915	3.354638785	2.26747278	2.846125434	3.509036386	15.90775075	19.96736385	24.61810201
120		Offroad	CHC	2043	3.468E-07	3.6276E-07	2.5408E-06	6656295.079	8205390.871	9976260.463	2.308397638	2.845622779	3.459758892	2.41464188	2.976592865	3.618994657	16.91234705	20.84829721	25.34773132
121		Offroad	CHC	2044	3.4707E-07	3.6304E-07	2.5388E-06	7059348.921	8526294.395	10196922.49	2.450061982	2.959189294	3.539007975	2.562826341	3.09538629	3.701891187	17.92246739	21.64678853	25.88822466
122		Offroad	CHC	2045	3.472E-07	3.6318E-07	2.5361E-06	7464690.558	8823254.698	10361794.01	2.591724934	3.063415559	3.597593187	2.711009345	3.20440958	3.76317279	18.93096199	22.37637288	26.27821302
128		Offroad	CHE	2030	8.0699E-07	8.7711E-07	4.8997E-06	777529.3224	909814.8685	1302815.497	0.627461988	0.734215713	1.05136511	0.681979289	0.798008357	1.142713413	3.809693028	4.457858066	6.383459726
129		Offroad	CHE	2031	8.1045E-07	8.8086E-07	5.1151E-06	1053692.512	1214814.956	1711029.203	0.85396591	0.98454772	1.38670494	0.928157814	1.070084471	1.507180802	5.389742427	6.213899823	8.75208525
130		Offroad	CHE	2032	7.718E-07	8.3887E-07	5.0695E-06	1312102.237	1547007.992	2172283.454	1.012684958	1.193986017	1.67657574	1.100686225	1.297742157	1.822268424	6.651761285	7.842626573	11.01248864
131		Offroad	CHE	2033	6.4784E-07	7.0409E-07	5.1313E-06	1550773.189	1901847.523	2679678.147	1.004654266	1.232094571	1.736005047	1.091877723	1.339064254	1.886723923	7.957497227	9.7589683	13.75025799
132		Offroad	CHE	2034	4.7352E-07	5.1472E-07	3.966E-06	1774123.135	2282412.948	3236743.69	0.840081001	1.080765882	1.532659614	0.9131792	1.17480686	1.666021346	7.036239132	9.052135665	12.83704731
133		Offroad	CHE	2035	4.245E-07	4.6139E-07	4.0607E-06	1984028.946	2688858.916	3842988.299	0.842220432	1.141420805	1.631348812	0.915405821	1.24060544	1.773106117	8.056507807	10.91859718	15.60514795
134		Offroad	CHE	2036	3.3401E-07	3.6305E-07	3.9075E-06	2250549.882	3108490.326	4410768.62	0.751699193	1.038257223	1.473227161	0.817067487	1.128544805	1.601340036	8.794130227	12.14657313	17.23528723
135		Offroad	CHE	2037	2.5199E-07	2.739E-07	3.8343E-06	2581043.641	3545613.065	4942845.593	0.650407398	0.893473063	1.245567215	0.706952065	0.971149204	1.353853473	9.896549448	13.5950181	18.95245592
136		Offroad	CHE	2038	2.4639E-07	2.6773E-07	4.0913E-06	2968282.311	3994340.328	5434821.367	0.731350567	0.984159443	1.339077377	0.794693262	1.06939806	1.455055641	12.14426719	16.34222459	22.23572958
137		Offroad	CHE	2039	2.426E-07	2.6365E-07	4.0904E-06	3413803.558	4460643.424	5897656.595	0.828197847	1.082163991	1.430787218	0.900037749	1.176033535	1.554897191	13.96377532	18.24575477	24.12369376
138		Offroad	CHE	2040	2.5164E-07	2.7351E-07	4.6622E-06	3908716.84	4937630.268	6326593.283	0.983590289	1.24250627	1.592025201	1.069067217	1.350483769	1.730376937	18.22340809	23.02045788	29.4961482
139		Offroad	CHE	2041	2.7943E-07	3.0365E-07	5.9108E-06	4405721.578	5419708.039	6766369.78	1.231071463	1.514405254	1.89069704	1.337812181	1.645712581	2.05463095	26.04143099	32.03492332	39.99479962
140		Offroad	CHE	2042	2.5305E-07	2.7503E-07	4.635E-06	4875013.612	5877513.054	7188106.508	1.233639144	1.487325114	1.818975344	1.340782358	1.616501294	1.976955792	22.59577832	27.24238179	33.3170067
141		Offroad	CHE	2043	2.5538E-07	2.7759E-07	4.7111E-06	5318183.203	6312648.364	7593297.115	1.35817667	1.612146743	1.939203407	1.476293059	1.752350119	2.10784988	25.05428478	29.73927069	35.77248491
142		Offroad	CHE	2044	2.5262E-07	2.7454E-07	4.5698E-06	5738328.106	6727809.598	7983972.668	1.449594525	1.699553559	2.016880676	1.575380616	1.84702942	2.191892055	26.22290094	30.74461435	36.48500409
143		Offroad	CHE	2045	2.4638E-07	2.6778E-07	4.4147E-06	6138331.055	7125522.342	8362057.07	1.51235913	1.755582856	2.060239703	1.643724535	1.908074979	2.239194701	27.09874704	31.45687741	36.91577845
149		Offroad	C&M	2030	8.6747E-07	9.558E-07	4.1474E-06	1173883.32	3160276.923	5661337.578	1.018303412	2.741431553	4.911015663	1.122002073	3.020604518	5.411127658	4.868523273	13.10682372	23.47963659
150		Offroad	C&M	2031	8.187E-07	9.0293E-07	4.1425E-06	1794730.614	4114842.634	7031562.006	1.469346245	3.368822333	5.756740957	1.62051932	3.715422212	6.349020846	7.434705598	17.04581364	29.12837894
151		Offroad	C&M	2032	7.4733E-07	8.254E-07	4.0808E-06	2804901.292	5313158.65	8452454.311	2.09618884	3.97068656	6.316778577	2.31515397	4.385459258	6.976620962	11.44625513	21.68196421	34.49281754
152		Offroad	C&M	2033	7.1072E-07	7.8576E-07	4.0891E-06	4198833.488	6754696.584	9930005.067	2.984194654	4.800697501	7.057452532	3.299259365	5.307544589	7.802562855	17.16953193	27.62076157	40.60497743
153		Offroad	C&M	2034	6.7687E-07	7.4912E-07	4.1013E-06	5953689.276	8427917.247	11467613.44	4.029902915	5.70464576	7.76213986	4.460033338	6.313529335	8.590629421	24.41761738	34.56506531	47.03164447
154		Offroad	C&M	2035	6.4605E-07	7.1577E-07	4.1166E-06	8050205.176	10321448.03	13064458.32	5.20087237	6.668219347	8.440353854	5.762093909	7.387781001	9.351144976	33.13933283	42.48909118	53.78091899
155		Offroad	C&M	2036	5.0939E-07	5.6748E-07	3.9543E-06	9629589.534	11707284.35	14175535.51	4.905209725	5.9635652	7.220865896	5.464590678	6.643639034	8.044319953	38.0783085	46.29414197	56.05435335
156		Offroad	C&M	2037	4.9309E-07	5.499E-07	3.9813E-06	11332434.5	13336200.76	15680823.77	5.587912735	6.575950301	7.732060999	6.231745886	7.333624052	8.622940551	45.11816532	53.09582073	62.43053944
157		Offroad	C&M	2038	4.7825E-07	5.3392E-07	4.0049E-06	12887246.27	14869676.73	17161245.06	6.163329338	7.111427293	8.207370523	6.880794369	7.939259155	9.162779691	51.61224187	59.55169444	68.72921588
158		Offroad	C&M	2039	4.6473E-07	5.1938E-07	4.0251E-06	14340791.02	16332073.7	18611654.23	6.664603285	7.590013121	8.649403772	7.448336381	8.482571046	9.666542182	57.72365654	65.73884323	74.91446846
159		Offroad	C&M	2040	4.5328E-07	5.0708E-07	4.0432E-06	15740382.87	17755011.06	20042692.13	7.134734553	8.047916749	9.084867204	7.981690448	9.003275422	10.16332104	63.64106873	71.7865562	81.0360433
160		Offroad	C&M	2041	4.4263E-07	4.9545E-07	4.0546E-06	17049886.23	19102226.89	21417396.2	7.546853615	8.455288681	9.480060555	8.447422415	9.464261369	10.61131965	69.13033757	77.45174222	86.83880989
161		Offroad	C&M	2042	4.3335E-07	4.853E-07	4.0646E-06	18304929.57	20411232.43	22774823.04	7.932382387	8.84514196	9.869396353	8.883318425	9.90549985	11.05254212	74.40163014	82.96284124	92.56981589
162		Offroad	C&M	2043	4.2519E-07	4.7638E-07	4.0741E-06	19511471.02	21685134.48	24114448.3	8.296000481	9.220211324	10.25312107	9.294940425	10.33043756	11.48772228	79.49156811	88.34727748	98.24453048
163		Offroad	C&M	2044	4.1753E-07	4.6804E-07	4.0745E-06	20677125.95	22928400.87	25436781.26	8.633269156	9.573238394	10.62055624	9.677789538	10.7314836	11.90551415	84.24938751	93.42225484	103.6427038
164		Offroad	C&M	2045	4.1083E-07	4.6078E-07	4.0767E-06	21810043.95	24145993.52	26742749.07	8.960144801	9.919814874	10.98663096	10.04961005	11.12596654	12.32249694	88.91333739	98.43633851	109.0225713
170		Offroad	GSE	2030	7.2356E-07	7.8647E-07	3.8062E-06	92479.2229	150150.7531	265942.0069	0.066913842	0.10864239	0.192423779	0.072732437	0.118089555	0.209156281	0.351997269	0.571508425	1.012236665
171		Offroad	GSE	2031	6.8023E-07	7.3938E-07	3.8308E-06	133965.7767	204555.2316	349763.2997	0.09112729	0.139144224	0.237918837	0.099051403	0.151243721	0.258607431	0.513195585	0.783609399	1.33987191

	A	B	C	D	E	F	G	K	L	M	N	O	P	Q	R	S	T	U	V
17		**Onroad vs. Offroad**	**Subsector**	**Year**	**Diesel PM2.5 ton/gal**	**Diesel PM10 ton/gal**	**Diesel ROG ton/gal**	**Conservative Demand - Diesel Displacement (no BEV) (gal)**	**Med Demand - Diesel Displacement (no BEV) (gal)**	**Ambitious Demand - Diesel Displacement (no BEV) (gal)**	**Conservative Diesel PM2.5 (ton)**	**Moderate Diesel PM2.5 (ton)**	**Ambitious Diesel PM2.5 (ton)**	**Conservative Diesel PM10 (ton)**	**Moderate Diesel PM10 (ton)**	**Ambitious Diesel PM10 (ton)**	**Conservative Diesel VOC (ton)**	**Moderate Diesel VOC (ton)**	**Ambitious Diesel VOC (ton)**
172		Offroad	GSE	2032	6.2827E-07	6.829E-07	3.8278E-06	187098.2553	268608.036	436029.4204	0.117547832	0.168757813	0.273943298	0.127769383	0.183432405	0.297764455	0.716181546	1.028187667	1.669049367
173		Offroad	GSE	2033	5.9441E-07	6.461E-07	3.8511E-06	253726.3006	343952.5848	525578.0786	0.150816945	0.204448171	0.312407819	0.163931462	0.222226273	0.339573717	0.977129071	1.324600835	2.024061434
174		Offroad	GSE	2034	5.6543E-07	6.1459E-07	3.8823E-06	334071.5265	430300.6099	616839.8601	0.188892534	0.243302904	0.348776939	0.205317972	0.264459679	0.379105368	1.296965978	1.670556174	2.394757555
175		Offroad	GSE	2035	5.3873E-07	5.8558E-07	3.912E-06	428607.4699	527787.7314	709072.0409	0.230903929	0.284335364	0.381998755	0.250982531	0.309060178	0.415216038	1.676707286	2.06469928	2.773881326
176		Offroad	GSE	2036	4.4138E-07	4.7977E-07	3.8216E-06	504308.8419	605037.2883	780064.7931	0.222593765	0.267053672	0.344307981	0.241949744	0.29027573	0.374247805	1.927241983	2.312180883	2.981057426
177		Offroad	GSE	2037	4.2505E-07	4.6201E-07	3.8527E-06	582136.8232	685600.1969	856978.7436	0.247434762	0.291411426	0.364255142	0.268950828	0.316751549	0.395929502	2.24282606	2.641444291	3.30172252
178		Offroad	GSE	2038	4.1063E-07	4.4634E-07	3.8808E-06	651755.5421	757929.8716	926713.9462	0.267632507	0.311231218	0.380539574	0.290904899	0.338294802	0.413629972	2.529359771	2.941405485	3.596429678
179		Offroad	GSE	2039	3.9734E-07	4.3189E-07	3.9022E-06	714209.2307	823042.415	990075.322	0.283783381	0.32702708	0.393395814	0.308460196	0.355464217	0.427604146	2.786987488	3.211676374	3.863472238
180		Offroad	GSE	2040	3.8567E-07	4.1921E-07	3.9188E-06	770495.1307	881891.4623	1047772.118	0.297156232	0.340118365	0.404093423	0.322995905	0.369693875	0.439231982	3.019382091	3.455917087	4.105962831
181		Offroad	GSE	2041	3.7532E-07	4.0796E-07	3.9308E-06	811971.1045	924856.2437	1088949.774	0.304748311	0.347116266	0.408703712	0.331248164	0.37730029	0.444243165	3.191729756	3.635463351	4.280489019
182		Offroad	GSE	2042	3.6613E-07	3.9797E-07	3.9429E-06	849032.6234	963299.2331	1125933.576	0.31085638	0.352692822	0.412238146	0.337887369	0.383361763	0.448084942	3.347619547	3.798157165	4.439402141
183		Offroad	GSE	2043	3.5769E-07	3.8879E-07	3.9529E-06	882526.8753	998071.7701	1159470.178	0.31567045	0.356999627	0.414730116	0.343120055	0.388043073	0.450793604	3.488509002	3.945242294	4.583228303
184		Offroad	GSE	2044	3.4897E-07	3.7931E-07	3.9487E-06	912790.1031	1029495.165	1189798.084	0.318534698	0.359261051	0.415201669	0.346233368	0.390501143	0.451306162	3.604330201	4.065162958	4.698150378
185		Offroad	GSE	2045	3.4046E-07	3.7006E-07	3.9434E-06	940254.4401	1058009.84	1217319.217	0.320114978	0.360205474	0.414443259	0.347951063	0.39152769	0.450481803	3.707758122	4.1721096	4.80032321

Tab Contents

This tab multiplies the volume of diesel and gasoline displaced by FCEVs for the full market in the geographic region of this study (as projected by the Demand Study) by the emissions factors (as calculated in the workbook "ALP1_NOx_PMVOC_1_EMFAC_DataPull_SoCalGas.xlsx" and summarized on the tab "SubsectorEFs") as developed from the EMFAC model data to estimate the VOC and PM emissions reductions associated with displacing that volume of fossil fuels. Fossil fuel displacement volumes copied from "2023-11 Updated Demand Study Displacement Volumes.xlsx". This tab also includes tables and summarized data used within the report to illustrate the VOC and PM emission reduction results. These tables begin in column AK.

$$\textbf{Emission Reduction}\left(\frac{\textbf{ton}}{\textbf{year}}\right) = \textbf{Emission Factor}\left(\frac{\textbf{ton}}{\textbf{gal}}\right) * \textbf{Fuel Displaced by FCEV}\left(\frac{\textbf{gal}}{\textbf{year}}\right)$$

Emission Redution	Showns in columns N through V, Z through AH
Emission Factor (ton/gal)	Shown in columns E through J
Fuel Displaced by FCEV (gal/yr)	Showns in columns K through M, W through Y

Example Calculation MDV, Year 2030, Conservative Gasoline Displacement, PM2.5

$$1.47\left(\frac{\text{ton}}{\text{year}}\right) = 3.75 * 10^{-7}\left(\frac{\text{ton}}{\text{gal}}\right) * 3,919,358.0\left(\frac{\text{gal}}{\text{year}}\right)$$

Emission Reduction	1.47	
Emission Factor (ton/gal)	3.75E-07	Cell W23
Fuel Displaced by FCEV (gal/	3,919,358.0	Cell K23

	A	B	C	D	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
16											PM / VOC (ton) = EF (ton/gal) * Gallons Fuel								
17		Onroad vs. Offroad	Subsector	Year	Gasoline PM2.5 ton/gal	Gasoline PM10 ton/gal	Gasoline ROG ton/gal	Conservative Demand - Gasoline Displacement (no BEV) (gal)	Med Demand - Gasoline Displacement (no BEV) (gal)	Ambitious Demand - Gasoline Displacement (no BEV) (gal)	Conservative Gasoline PM2.5 (ton)	Moderate Gasoline PM2.5 (ton)	Ambitious Gasoline PM2.5 (ton)	Conservative Gasoline PM10 (ton)	Moderate Gasoline PM10 (ton)	Ambitious Gasoline PM10 (ton)	Conservative Gasoline VOC (ton)	Moderate Gasoline VOC (ton)	Ambitious Gasoline VOC (ton)
23		Onroad	MDV	2030	3.75422E-07	1.07788E-06	2.99662E-06	3919358.008	7227232.02	13105215.3	1.471412812	2.713261143	4.919984764	4.224608908	7.790109684	14.12588724	11.7448379	21.65728887	39.27138807
24		Onroad	MDV	2031	3.80554E-07	1.09296E-06	2.9012E-06	5767603.819	9738544.741	17096824.14	2.194882494	3.706038424	6.506258262	6.30373292	10.64379368	18.68606384	16.73299204	28.2534995	49.601365
25		Onroad	MDV	2032	3.8523E-07	1.10662E-06	2.84752E-06	8370993.207	13089263.86	21928386.37	3.224756524	5.042375258	8.447469167	9.263483801	14.48480255	24.26632622	23.83654687	37.27190356	62.44145665
26		Onroad	MDV	2033	3.89985E-07	1.1205E-06	2.82094E-06	11793309.45	17281924.52	27423029.16	4.599218124	6.739697688	10.69458011	13.2144587	19.36447768	30.72763312	33.26825006	48.7513186	77.35879359
27		Onroad	MDV	2034	3.93596E-07	1.13117E-06	2.78326E-06	16134081.51	22372195.59	33499361.81	6.350312441	8.805610152	13.18521999	18.25034471	25.30669508	37.89338116	44.9052968	62.26757204	93.23733633
28		Onroad	MDV	2035	3.96707E-07	1.14037E-06	2.78215E-06	21483869.21	28412982.7	40086718.03	8.522800649	11.27162826	15.90268043	24.4996453	32.40142598	45.71384992	59.77125744	79.04906173	111.527096
29		Onroad	MDV	2036	4E-07	1.14988E-06	2.82482E-06	26779795.55	34292710.68	46376225.2	10.71192348	13.71709101	18.55049919	30.79350557	39.43244358	53.32701462	75.64820541	96.8708673	131.0046674
30		Onroad	MDV	2037	4.02889E-07	1.15817E-06	2.89572E-06	31869524.39	39848360.03	52215567.87	12.83989554	16.05448434	21.03710206	36.91046418	46.15134658	60.47472889	92.2852285	115.3897048	151.2016795
31		Onroad	MDV	2038	4.06939E-07	1.1699E-06	2.93114E-06	36763273.1	45101316.25	57640552.64	14.9603934	18.35346467	23.45616347	43.00927884	52.76393865	67.43356594	107.758305	132.1982779	168.9525369
32		Onroad	MDV	2039	4.09424E-07	1.17707E-06	2.95112E-06	41507610.49	50105779.02	62713420.88	16.99420154	20.51449595	25.67636396	48.8575343	58.97821599	73.81834501	122.4937982	147.867996	185.0746172
33		Onroad	MDV	2040	4.11764E-07	1.18384E-06	2.92019E-06	46020795.09	54776169.09	67343979.05	18.9496945	22.55484	27.72980838	54.48147565	64.84647901	79.72481458	134.3892722	159.956591	196.6569311
34		Onroad	MDV	2041	4.13865E-07	1.18982E-06	2.94118E-06	50257920.67	59156557.81	71682869.34	20.79997418	24.48280507	29.66700196	59.7981209	70.38594014	85.29005638	147.8174613	173.9899319	210.8320365
35		Onroad	MDV	2042	4.1575E-07	1.19521E-06	2.9658E-06	54150885.55	63176571.07	75656761.13	22.51323537	26.2656649	31.45430501	64.72162199	75.50920191	90.42563653	160.6005208	187.3688696	224.3825768
36		Onroad	MDV	2043	4.17367E-07	1.19982E-06	2.99806E-06	57807453.59	66954032.06	79393833.56	24.12689986	27.94437614	33.13633369	69.35856455	80.33281637	95.25834451	173.3102832	200.7322851	238.0275712
37		Onroad	MDV	2044	4.18845E-07	1.20408E-06	3.00656E-06	61105039.59	70352961.65	82742467.94	25.59354214	29.46698833	34.65627146	73.57533394	84.71056858	99.62852083	183.7160925	211.5205439	248.7703632
38		Onroad	MDV	2045	4.20159E-07	1.2079E-06	2.99578E-06	64110082.44	73445497.23	85780462.14	26.93643558	30.85879521	36.04144317	77.43842225	88.71464846	103.6140244	192.0600051	220.026898	256.9797974
44		Onroad	HDV	2030	1.78566E-07	5.29441E-07	2.54979E-06	0	0	0	0	0	0	0	0	0	0	0	0
45		Onroad	HDV	2031	1.81196E-07	5.3765E-07	2.35102E-06	0	0	0	0	0	0	0	0	0	0	0	0
46		Onroad	HDV	2032	1.84119E-07	5.46317E-07	2.24358E-06	147.4241023	226.8063112	361.7560663	2.71436E-05	4.17594E-05	6.66062E-05	8.05403E-05	0.000123908	0.000197633	0.000330758	0.000508859	0.00081163
47		Onroad	HDV	2033	1.86506E-07	5.53353E-07	2.23675E-06	570.1920535	787.8487113	1145.635474	0.000106344	0.000146939	0.000213668	0.000315517	0.000435958	0.000633941	0.001275374	0.001762217	0.002562495
48		Onroad	HDV	2034	1.89328E-07	5.61648E-07	2.15167E-06	1141.151979	1465.40167	1976.912271	0.000216052	0.000277442	0.000374285	0.000640926	0.00082304	0.001110329	0.002455379	0.003153057	0.004253658
49		Onroad	HDV	2035	1.9208E-07	5.69712E-07	2.12294E-06	2005.565872	2409.378748	3003.340704	0.000385229	0.000462793	0.000576882	0.001142595	0.001372652	0.00171104	0.004257698	0.005114969	0.006375915
50		Onroad	HDV	2036	1.94893E-07	5.77901E-07	2.14225E-06	2979.349558	3472.026492	4157.46521	0.000580654	0.000676673	0.00081026	0.00172177	0.002006489	0.002402605	0.006382502	0.007437938	0.008906316
51		Onroad	HDV	2037	1.97444E-07	5.85293E-07	2.14101E-06	4005.258494	4592.440223	5375.876036	0.000790815	0.000906751	0.001061436	0.002344249	0.002687923	0.003146462	0.008575304	0.009832467	0.011509812

	A	B	C	D	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
17		Onroad vs. Offroad	Subsector	Year	Gasoline PM2.5 ton/gal	Gasoline PM10 ton/gal	Gasoline ROG ton/gal	Conservative Demand - Gasoline Displacement (no BEV) (gal)	Med Demand - Gasoline Displacement (no BEV) (gal)	Ambitious Demand - Gasoline Displacement (no BEV) (gal)	Conservative Gasoline PM2.5 (ton)	Moderate Gasoline PM2.5 (ton)	Ambitious Gasoline PM2.5 (ton)	Conservative Gasoline PM10 (ton)	Moderate Gasoline PM10 (ton)	Ambitious Gasoline PM10 (ton)	Conservative Gasoline VOC (ton)	Moderate Gasoline VOC (ton)	Ambitious Gasoline VOC (ton)
52		Onroad	HDV	2038	1.99218E-07	5.90496E-07	2.12835E-06	5035.417696	5717.91536	6600.525028	0.001003146	0.001139112	0.001314944	0.002973394	0.003376406	0.003897584	0.01071715	0.012169747	0.014048253
53		Onroad	HDV	2039	2.01399E-07	5.96812E-07	2.1213E-06	6066.413474	6844.711258	7827.322512	0.001221771	0.001378519	0.001576416	0.003620507	0.004085005	0.004671439	0.012868663	0.014519663	0.016604073
54		Onroad	HDV	2040	2.03473E-07	6.02827E-07	2.13063E-06	7004.26052	7869.112469	8941.605537	0.001425175	0.001601149	0.001819372	0.004222354	0.00474371	0.005390237	0.014923478	0.016766156	0.01905124
55		Onroad	HDV	2041	2.05317E-07	6.08178E-07	2.13757E-06	7954.575037	8907.694973	10072.29922	0.001633211	0.001828902	0.002068016	0.004837799	0.005417466	0.006125753	0.017003436	0.019040794	0.021530213
56		Onroad	HDV	2042	2.06934E-07	6.12877E-07	2.14337E-06	8868.581831	9906.587514	11159.76561	0.001835213	0.002050012	0.002309337	0.005435346	0.006071515	0.006839558	0.019008669	0.021233501	0.023919528
57		Onroad	HDV	2043	2.08345E-07	6.16976E-07	2.14606E-06	9786.228119	10909.84412	12252.65881	0.002038915	0.002273015	0.002552784	0.006037869	0.006731114	0.007559598	0.021001805	0.02341315	0.026294907
58		Onroad	HDV	2044	2.09606E-07	6.20643E-07	2.14562E-06	10668.84856	11874.78989	13303.78802	0.002236252	0.002489024	0.002788551	0.006621545	0.007370004	0.008256902	0.022891252	0.025478739	0.02854482
59		Onroad	HDV	2045	2.10759E-07	6.24004E-07	2.13759E-06	11463.2563	12742.79175	14248.43534	0.002415979	0.002685652	0.003002979	0.007153114	0.007951549	0.008891076	0.02450371	0.027238829	0.030457273
65		Onroad	Bus	2030	1.73769E-07	5.03004E-07	2.41976E-06	41655936.59	86106404.81	159342697.4	7.23852063	14.96264491	27.68886015	20.95311639	43.31189429	80.15006645	100.7975763	208.3572623	385.571878
66		Onroad	Bus	2031	1.76487E-07	5.10682E-07	2.47896E-06	54370480.75	101001117.8	181156540.8	9.595665455	17.82535163	31.97171584	27.76603697	51.57947352	92.51342161	134.781995	250.377263	449.0789788
67		Onroad	Bus	2032	1.79322E-07	5.18644E-07	2.52311E-06	68697365.69	116417332.3	200225710.3	12.31894376	20.87617996	35.90485951	35.62950579	60.37920048	103.8459486	173.3310559	293.7338124	505.1916246
68		Onroad	Bus	2033	1.82062E-07	5.2642E-07	2.56058E-06	84478725.32	132308365.1	216786620.9	15.3803615	24.08831899	39.46859501	44.47126045	69.64972234	114.1207356	216.3141642	338.7855734	555.0985354
69		Onroad	Bus	2034	1.84804E-07	5.34183E-07	2.56979E-06	101565123.6	148622813.3	231070804.2	18.76963247	27.46607775	42.70278926	54.25436023	79.39177706	123.4340904	261.0009051	381.9292233	593.8031371
70		Onroad	Bus	2035	1.87941E-07	5.4329E-07	2.67799E-06	119819423.6	165311885.4	243291952.1	22.51893864	31.06882083	45.72444413	65.09671341	89.81232009	132.1781227	320.8753201	442.7037164	651.5336215
71		Onroad	Bus	2036	1.9209E-07	5.54939E-07	2.74655E-06	146948644.9	191985477	266829381.5	28.2273266	36.87843985	51.25518581	81.54753637	106.5402317	148.0740343	403.6024017	527.2984971	732.8613291
72		Onroad	Bus	2037	1.96487E-07	5.67334E-07	2.88665E-06	172880530.9	217522549.1	289441048.8	33.96870462	42.74026221	56.87128239	98.08096607	123.4078913	164.209686	499.0464244	627.9125234	835.5164098
73		Onroad	Bus	2038	2.01359E-07	5.81068E-07	2.97028E-06	197121422.4	241477310.5	310820958.3	39.69216189	48.62361678	62.58658063	114.5409602	140.3147496	180.6081277	585.5055984	717.2549563	923.224929
74		Onroad	Bus	2039	2.06924E-07	5.96922E-07	3.10391E-06	219771714	263946497.9	331050987.6	45.47603626	54.61685805	68.50238567	131.1865278	157.5554194	197.6115524	682.1525728	819.2673176	1027.553905
75		Onroad	Bus	2040	2.13009E-07	6.14144E-07	3.18407E-06	240971524	285060889.4	350232222.4	51.3292194	60.72067226	74.60278413	147.9912453	175.06847	215.0930612	767.2703695	907.6540261	1115.164158
76		Onroad	Bus	2041	2.18532E-07	6.29384E-07	3.16023E-06	260859248.9	304950001.8	368465471.7	57.00605157	66.64128494	80.52143742	164.1807132	191.9307405	231.9063794	824.3747133	963.7115473	1164.434916
77		Onroad	Bus	2042	2.23785E-07	6.44063E-07	3.1416E-06	279533624.6	323701398.9	385808459	62.55551123	72.43960908	86.33825509	180.0373965	208.4842465	248.4851352	878.1817593	1016.939069	1212.05437
78		Onroad	Bus	2043	2.2837E-07	6.57023E-07	3.14431E-06	297107451.5	341420019.1	402341517.1	67.85034568	77.96999436	91.88261982	195.2062979	224.3206544	264.3474528	934.1975694	1073.529965	1265.085966
79		Onroad	Bus	2044	2.33217E-07	6.708E-07	3.10587E-06	313649779.2	358164326.3	418096878.1	73.14843071	83.52997562	97.50725985	210.3962647	240.2566219	280.4593763	974.1555362	1112.411946	1298.554679
80		Onroad	Bus	2045	2.37847E-07	6.83989E-07	3.06456E-06	329297482.3	374069112	433193896.1	78.32236221	88.97115242	103.0337949	225.2358676	255.8591715	296.2998756	1009.151296	1146.35656	1327.547901
86		Offroad	Agriculture	2030	3.14671E-06	3.42034E-06	7.58109E-05	53610.66433	87018.04704	132467.9727	0.168697223	0.273820574	0.416838317	0.183366547	0.297631059	0.453085128	4.064273833	6.596918281	10.042519
87		Offroad	Agriculture	2031	3.12208E-06	3.39357E-06	7.43811E-05	76049.93494	120365.1746	180603.5213	0.237434026	0.375789775	0.563858748	0.258080463	0.408467147	0.612889944	5.656676944	8.95289271	13.43348651
88		Offroad	Agriculture	2032	3.11084E-06	3.38135E-06	7.13106E-05	100129.4545	156724.2637	232891.9023	0.311486513	0.487543797	0.724488982	0.338572297	0.529938909	0.787488024	7.140295545	11.17610765	16.60767075
89		Offroad	Agriculture	2033	3.09789E-06	3.36727E-06	6.91086E-05	125668.1507	195935.5881	289095.0408	0.389306234	0.606987097	0.895584927	0.42315895	0.659768584	0.973461878	8.684744621	13.54082586	19.97894125
90		Offroad	Agriculture	2034	3.07276E-06	3.33996E-06	6.73838E-05	152493.6798	237841.1199	348982.5509	0.468576287	0.73082838	1.072339183	0.509322051	0.794378672	1.165586067	10.27559704	16.02662818	23.51575535
91		Offroad	Agriculture	2035	3.0291E-06	3.2925E-06	6.6901E-05	180450.6304	282296.6457	412345.6743	0.54660223	0.855103557	1.249034511	0.594132857	0.929460387	1.357646206	12.07232625	18.88592574	27.58633481
92		Offroad	Agriculture	2036	3.0277E-06	3.29098E-06	6.63032E-05	216063.4548	331730.896	477384.3135	0.654175755	1.004382299	1.445377443	0.711060603	1.09171989	1.571062438	14.3256953	21.9948151	31.65210065
93		Offroad	Agriculture	2037	3.02134E-06	3.28407E-06	6.59059E-05	259952.6026	386287.6845	543711.9013	0.785406473	1.167108329	1.642741186	0.85370269	1.268596014	1.785588251	17.13240145	25.45862446	35.83380383
94		Offroad	Agriculture	2038	2.97532E-06	3.23404E-06	6.59793E-05	312310.8614	445948.9436	611057.1477	0.929223687	1.32683929	1.818088468	1.010025746	1.442216618	1.976183117	20.60604793	29.4233933	40.31711487
95		Offroad	Agriculture	2039	2.93446E-06	3.18963E-06	6.57463E-05	373245.9476	510656.5422	679160.4938	1.095275585	1.498501582	1.992969815	1.190516941	1.628806069	2.16627154	24.53954987	33.57379167	44.65230746
96		Offroad	Agriculture	2040	2.93804E-06	3.19353E-06	6.5006E-05	442837.3906	580355.8358	747803.931	1.301075839	1.705111113	2.197081022	1.41421287	1.853381647	2.388131549	28.78710329	37.72663227	48.61176915
97		Offroad	Agriculture	2041	2.91949E-06	3.17336E-06	6.54071E-05	512310.289	650111.4851	816745.7337	1.495684216	1.897993282	2.384480125	1.625743711	2.063036174	2.591826221	33.50875343	42.52193627	53.42100675
98		Offroad	Agriculture	2042	2.90608E-06	3.15879E-06	6.56339E-05	581059.7609	719531.8466	885854.5995	1.688608775	2.091020359	2.574368336	1.835444318	2.272848213	2.798226448	38.13721585	47.22567832	58.14208856
99		Offroad	Agriculture	2043	2.93181E-06	3.18675E-06	6.54103E-05	648972.9679	788477.9	954959.6094	1.902665331	2.311667263	2.799759977	2.068114487	2.512681804	3.043217361	42.4494882	51.57454157	62.46415287
100		Offroad	Agriculture	2044	2.94641E-06	3.20262E-06	6.50989E-05	715995.4383	856858.6116	1023924.834	2.109617461	2.524658388	3.016904288	2.293062461	2.744193904	3.279243796	46.61050201	55.780537	66.65636115
101		Offroad	Agriculture	2045	2.93314E-06	3.1882E-06	6.57258E-05	782069.6834	924580.7189	1092613.127	2.293919466	2.71192421	3.204786699	2.493390722	2.947743705	3.483463802	51.40216172	60.76881465	71.81288039
107		Offroad	CHC	2030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108		Offroad	CHC	2031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109		Offroad	CHC	2032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110		Offroad	CHC	2033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	A	B	C	D	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
17		Onroad vs. Offroad	Subsector	Year	Gasoline PM2.5 ton/gal	Gasoline PM10 ton/gal	Gasoline ROG ton/gal	Conservative Demand - Gasoline Displacement (no BEV) (gal)	Med Demand - Gasoline Displacement (no BEV) (gal)	Ambitious Demand - Gasoline Displacement (no BEV) (gal)	Conservative Gasoline PM2.5 (ton)	Moderate Gasoline PM2.5 (ton)	Ambitious Gasoline PM2.5 (ton)	Conservative Gasoline PM10 (ton)	Moderate Gasoline PM10 (ton)	Ambitious Gasoline PM10 (ton)	Conservative Gasoline VOC (ton)	Moderate Gasoline VOC (ton)	Ambitious Gasoline VOC (ton)
111		Offroad	CHC	2034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112		Offroad	CHC	2035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113		Offroad	CHC	2036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114		Offroad	CHC	2037	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115		Offroad	CHC	2038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116		Offroad	CHC	2039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117		Offroad	CHC	2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118		Offroad	CHC	2041	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119		Offroad	CHC	2042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120		Offroad	CHC	2043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121		Offroad	CHC	2044	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122		Offroad	CHC	2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128		Offroad	CHE	2030	8.91853E-07	9.69361E-07	3.84937E-06	2031386.75	2378601.649	3407109.649	1.811698613	2.121363304	3.038641374	1.96914622	2.305722653	3.302717755	7.819558905	9.156117468	13.11522515
129		Offroad	CHE	2031	8.91752E-07	9.69417E-07	3.85086E-06	2756831.628	3180183.788	4480525.324	2.458409675	2.835934742	3.995516699	2.672520055	3.08292493	4.343498408	10.61615962	12.24642752	17.25385459
130		Offroad	CHE	2032	8.91871E-07	9.6942E-07	2.01753E-06	3437636.315	4054078.745	5693818.616	3.065927347	3.615714331	5.078150393	3.332512356	3.930103789	5.519699919	6.935529043	8.179219178	11.48744101
131		Offroad	CHE	2033	8.91801E-07	9.69391E-07	3.2812E-06	4067918.332	4988169.928	7028854.772	3.627774538	4.448456036	6.268341273	3.943404535	4.835488403	6.813710484	13.34763813	16.36716416	23.0630515
132		Offroad	CHE	2034	8.91733E-07	9.69283E-07	3.8394E-06	4658530.768	5990374.31	8494962.55	4.154167496	5.34181687	7.575241865	4.515436474	5.806370291	8.23402606	17.88595425	22.99943183	32.6155432
133		Offroad	CHE	2035	8.91829E-07	9.69387E-07	3.85624E-06	5213840.975	7060943.931	10090855.83	4.649852258	6.297151417	8.999313365	5.054231066	6.844789157	9.78194718	20.10581282	27.22868183	38.91274388
134		Offroad	CHE	2036	8.91817E-07	9.69334E-07	3.86239E-06	5916513.226	8166497.354	11587384.5	5.276447024	7.283021099	10.33382639	5.735076855	7.91606275	11.23204464	22.8518647	31.5421745	44.7549651
135		Offroad	CHE	2037	8.919E-07	9.69333E-07	3.87161E-06	6785799.282	9318348.349	12991858.1	6.052252718	8.311032611	11.58743506	6.577699774	9.032583382	12.59343793	26.27200213	36.07705703	50.29947238
136		Offroad	CHE	2038	8.91758E-07	9.6938E-07	3.86421E-06	7803388.957	10500905.88	14291883.71	6.958732936	9.364264684	12.74489871	7.564445733	10.1793635	13.8542599	30.15392901	40.57769929	55.22683146
137		Offroad	CHE	2039	8.91828E-07	9.69317E-07	3.11047E-06	8974160.807	11729836.07	15515489.12	8.003405237	10.46099278	13.83714306	8.698806959	11.36992994	15.03942794	27.91388542	36.48533907	48.26051092
138		Offroad	CHE	2040	8.91861E-07	9.69382E-07	3.28915E-06	10275238.74	12986931.59	16649572.54	9.164087492	11.58254133	14.84910894	9.96063612	12.58930358	16.13980344	33.79677351	42.71593066	54.76289614
139		Offroad	CHE	2041	8.9182E-07	9.69377E-07	3.7657E-06	11584056.86	14258454	17811807.91	10.330899	12.7159811	15.88493485	11.22931295	13.82181079	17.26634872	43.62212574	53.69311292	67.0739909
140		Offroad	CHE	2042	8.91845E-07	9.69297E-07	3.81204E-06	12822176.41	15467061.9	18926068.63	11.43539739	13.794226	16.87912479	12.42850049	14.99218075	18.34498651	48.87858986	58.96098686	72.14684285
141		Offroad	CHE	2043	8.91852E-07	9.69271E-07	3.82767E-06	13992888.74	16616522.96	19996357.25	12.4795878	14.8194816	17.83379405	13.5629071	16.10592077	19.38189754	53.56010719	63.60250321	76.53938065
142		Offroad	CHE	2044	8.91728E-07	9.69327E-07	3.77505E-06	15103378.78	17713456.55	21028119.07	13.46810828	15.79558814	18.75136608	14.64011945	17.17013944	20.38313278	57.0160306	66.86920822	79.3822295
143		Offroad	CHE	2045	8.91711E-07	9.69346E-07	3.84126E-06	16160600.06	18764205.79	22026495.84	14.41058457	16.73224839	19.64126827	15.6652128	18.18900757	21.35129534	62.07705107	72.07817513	84.60947631
149		Offroad	C&M	2030	2.53E-05	3.34853E-05	0.000103506	833724.038	1925375.191	3318728.979	21.09320773	48.71196824	83.96380163	27.9174804	64.47172171	111.1285593	86.29511297	199.2871287	343.5070588
150		Offroad	C&M	2031	2.53503E-05	3.35519E-05	0.000103684	1232589	2479441.771	4069845.218	31.24652605	62.85464326	103.1718802	41.355696	83.18996854	136.5510171	127.7996409	257.0782052	421.9774452
151		Offroad	C&M	2032	2.54037E-05	3.36226E-05	0.000103874	1841645.982	3172723.524	4860540.088	46.78467672	80.59901078	123.4758465	61.92089514	106.6751604	163.4239132	191.2989024	329.563083	504.8831278
152		Offroad	C&M	2033	2.546E-05	3.36971E-05	0.000103973	2648763.627	4001358.766	5697958.326	67.43750547	101.8745693	145.0699836	89.25552141	134.833988	192.0043889	275.4008052	416.0346417	592.4357672
153		Offroad	C&M	2034	2.55138E-05	3.37682E-05	0.000104126	3630591.301	4952752.176	6584355.708	92.63002862	126.3633215	167.9916595	122.5985618	167.2455651	222.3418923	378.0381679	515.7092064	685.6012044
154		Offroad	C&M	2035	2.55683E-05	3.38404E-05	0.00010433	4768351.162	6015401.765	7518518.06	121.9184967	153.803425	192.2355104	161.3627199	203.5633613	254.4293578	497.4805816	627.58498	784.4046317
155		Offroad	C&M	2036	2.5621E-05	3.39101E-05	0.000104536	5611542.277	6776283.098	8150839.661	143.7732969	173.6151157	208.8326225	190.2881808	229.7847043	276.396109	586.6106651	708.3685266	852.0597793
156		Offroad	C&M	2037	2.56697E-05	3.39745E-05	0.000104714	6502247.411	7639723.759	8959772.549	166.9104417	196.109066	229.9942618	220.9108732	259.5561103	304.4041625	680.879028	799.9891973	938.217333
157		Offroad	C&M	2038	2.57162E-05	3.40361E-05	0.000104885	7312558.5	8436023.53	9724020.305	188.0511781	216.9424236	250.0647994	248.8912685	287.1296821	330.9681213	766.98112	884.8162753	1019.90842
158		Offroad	C&M	2039	2.57597E-05	3.40937E-05	0.000105034	8083123.917	9193252.231	10453827.53	208.218771	236.8153328	269.2873625	275.5836678	313.4320586	356.4097449	849.0033686	965.6046588	1098.008008
159		Offroad	C&M	2040	2.57995E-05	3.41463E-05	0.000105197	8848675.456	9938367.763	11164727.57	228.2910753	256.4045517	288.0439763	302.1499419	339.3589535	381.234661	930.8567651	1045.489453	1174.499194
160		Offroad	C&M	2041	2.58098E-05	3.416E-05	0.000105295	9560586.727	10645885.26	11858543.63	246.7565134	274.7678154	306.0662451	326.5894995	363.6632813	405.0876731	1006.678074	1120.95414	1248.640508
161		Offroad	C&M	2042	2.58179E-05	3.41707E-05	0.000105362	10219777.65	11320167.1	12543382.43	263.8531911	292.2629353	323.8437855	349.217446	386.8185766	428.6167592	1076.77138	1192.710093	1321.589928
162		Offroad	C&M	2043	2.58112E-05	3.41619E-05	0.000105374	10835214.92	11966465.79	13219837.22	279.670143	308.8691108	341.2201598	370.1516395	408.7973301	451.6148926	1141.749643	1260.954041	1393.026769
163		Offroad	C&M	2044	2.57926E-05	3.41373E-05	0.000105355	11417862.82	12590650.05	13887509.55	294.4968746	324.7461584	358.1955943	389.7752625	429.811078	474.0823887	1202.928493	1326.487445	1463.118027
164		Offroad	C&M	2045	2.57611E-05	3.40956E-05	0.000105246	11978186.01	13198705.61	14546855.48	308.5712265	340.0131519	374.742973	408.4030618	450.0173717	495.9833077	1260.661245	1389.116569	1531.004521
170		Offroad	GSE	2030	4.71164E-07	6.23599E-07	5.55882E-06	344384.4493	562509.3533	996753.2547	0.162261504	0.265034075	0.469634105	0.214757873	0.350780393	0.62157455	1.914372825	3.126890956	5.540776734
171		Offroad	GSE	2031	4.71012E-07	6.23399E-07	5.55462E-06	504628.7691	776390.549	1330280.263	0.237686445	0.365689634	0.626578599	0.314585001	0.484000986	0.829295204	2.80302137	4.312554958	7.38920219

	A	B	C	D	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
17		**Onroad vs. Offroad**	**Subsector**	**Year**	**Gasoline PM2.5 ton/gal**	**Gasoline PM10 ton/gal**	**Gasoline ROG ton/gal**	**Conservative Demand - Gasoline Displacement (no BEV) (gal)**	**Med Demand - Gasoline Displacement (no BEV) (gal)**	**Ambitious Demand - Gasoline Displacement (no BEV) (gal)**	**Conservative Gasoline PM2.5 (ton)**	**Moderate Gasoline PM2.5 (ton)**	**Ambitious Gasoline PM2.5 (ton)**	**Conservative Gasoline PM10 (ton)**	**Moderate Gasoline PM10 (ton)**	**Ambitious Gasoline PM10 (ton)**	**Conservative Gasoline VOC (ton)**	**Moderate Gasoline VOC (ton)**	**Ambitious Gasoline VOC (ton)**
172		Offroad	GSE	2032	4.71488E-07	6.24029E-07	5.50691E-06	712748.1868	1032996.267	1685829.755	0.336052545	0.487045819	0.794849275	0.444775427	0.644619467	1.052006393	3.925040128	5.688617489	9.283712759
173		Offroad	GSE	2033	4.71665E-07	6.24263E-07	5.48461E-06	978157.9936	1340610.1	2067365.227	0.461363224	0.63231932	0.975104525	0.610627796	0.836893218	1.290579518	5.364811149	7.352718128	11.33868362
174		Offroad	GSE	2034	4.71655E-07	6.2425E-07	5.47764E-06	1301780.468	1697235.865	2465285.016	0.613991822	0.800510507	1.162765057	0.812636236	1.0594992	1.538953752	7.130689764	9.296853586	13.50395329
175		Offroad	GSE	2035	4.71645E-07	6.24236E-07	5.47196E-06	1686938.745	2104296.654	2875668.098	0.795636381	0.99248119	1.356294746	1.053048151	1.313578046	1.795095988	9.230866989	11.51463417	15.73555044
176		Offroad	GSE	2036	4.71611E-07	6.24192E-07	5.46978E-06	2020412.607	2454714.989	3223990.45	0.952849685	1.157671654	1.520470756	1.261124583	1.532212483	2.012387766	11.05121904	13.42675893	17.63452896
177		Offroad	GSE	2037	4.71626E-07	6.24211E-07	5.45618E-06	2366769.347	2820592.575	3592247.983	1.116229665	1.330264442	1.694197099	1.477362791	1.760644114	2.24231969	12.91350951	15.3896488	19.59993632
178		Offroad	GSE	2038	4.71602E-07	6.2418E-07	5.45231E-06	2690609.638	3162801.527	3936985.894	1.268898193	1.491585061	1.856692333	1.679424078	1.974156699	2.457386911	14.67004356	17.24458112	21.46567593
179		Offroad	GSE	2039	4.71564E-07	6.24129E-07	5.45479E-06	2992235.45	3481622.213	4258389.454	1.411030569	1.641807757	2.008103237	1.867540459	2.172980855	2.657783697	16.3220182	18.99152058	23.22862332
180		Offroad	GSE	2040	4.71495E-07	6.24037E-07	5.46046E-06	3272927.815	3778353.165	4557629.696	1.543168686	1.781474147	2.148899036	2.042429143	2.357833429	2.844131077	17.87168141	20.63153476	24.88674071
181		Offroad	GSE	2041	4.71495E-07	6.24037E-07	5.46045E-06	3478466.423	3993255.474	4768769.542	1.640079202	1.882799618	2.248450551	2.170693062	2.49194067	2.975890435	18.9940057	21.80498761	26.03964646
182		Offroad	GSE	2042	4.71495E-07	6.24037E-07	5.46045E-06	3666406.569	4189632.952	4961422.61	1.728692085	1.975390668	2.339285574	2.287974819	2.614487649	3.09611326	20.02023868	22.87729146	27.09161218
183		Offroad	GSE	2043	4.71495E-07	6.24037E-07	5.46044E-06	3839981.536	4370892.486	5138995.197	1.810531933	2.060853769	2.423010325	2.396292264	2.727600577	3.20692543	20.96800201	23.86701122	28.06119264
184		Offroad	GSE	2044	4.71495E-07	6.24037E-07	5.46044E-06	4000052.996	4537920.727	5302322.152	1.886004811	2.139606733	2.500018149	2.496182838	2.83183244	3.30884755	21.84206226	24.77905847	28.95302904
185		Offroad	GSE	2045	4.71495E-07	6.24037E-07	5.46044E-06	4147358.584	4691481.003	5452133.045	1.955458666	2.212009644	2.570653247	2.588107058	2.927659822	3.40233518	22.64639701	25.61754408	29.77103787

Tab Contents

This tab was used to calculate PM and VOC displacement by hydrogen fuel substitution for natural gas in the power generation sector. These calculations were only performed for market demand quantities of hydrogen, AL-specific results can be found in the "1. PM_VOC_Overall_Results" tab. Market hydrogen values are from the demand study, copied from "2.1 Data_Compilation_Power" tab of the "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas" workbook.

Sum of tables below.

Power Overall Hydrogen (MMBtu)

Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Low	778,847	1,942,917	3,596,871	5,740,707	8,374,427	11,498,030	15,247,539	19,525,164	24,330,905	29,664,762	35,526,736	42,271,195	49,600,545	57,514,785	66,013,916	75,097,938
Mid	1,809,670	4,514,415	8,357,415	13,338,670	19,458,180	26,715,945	35,428,018	45,367,181	56,533,434	68,926,777	82,547,211	98,218,121	115,248,039	133,636,964	153,384,896	174,491,836
High	2,942,237	7,339,724	13,587,833	21,686,565	31,635,920	43,435,898	57,600,349	73,759,854	91,914,415	112,064,029	134,208,699	159,687,118	187,375,069	217,272,550	249,379,562	283,696,105

Power Overall Hydrogen - PM (lb)

Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative	5,176	12,912	23,902	38,148	55,649	76,405	101,320	129,744	161,678	197,120	236,072	280,888	329,591	382,179	438,655	499,016
Moderate	12,027	30,000	55,537	88,638	129,301	177,528	235,419	301,464	375,662	458,014	548,520	652,650	765,811	888,003	1,019,224	1,159,476
Ambitious	19,554	48,776	90,295	144,111	210,223	288,633	382,754	490,132	610,767	744,658	891,806	1,061,106	1,245,088	1,443,752	1,657,098	1,885,125

Power Overall Hydrogen - VOC (lb)

Scenario	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
Conservative	1,827	4,550	8,418	13,430	19,587	26,888	35,653	45,651	56,884	69,350	83,051	98,813	115,943	134,439	154,302	175,531
Moderate	4,245	10,572	19,559	31,205	45,510	62,476	82,840	106,072	132,171	161,137	192,970	229,595	269,396	312,372	358,524	407,851
Ambitious	6,902	17,189	31,799	50,734	73,993	101,576	134,685	172,456	214,888	261,983	313,738	373,285	437,995	507,867	582,903	663,101

PM Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas PM EF

PM Reductions (lb) - Conservative

Sector	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
SoCal_PowerPeakerBaseload	4,491	10,636	19,278	30,416	44,051	60,183	79,529	101,566	126,295	153,716	183,828	218,464	256,080	296,678	340,256	386,816
SoCal_PowerCogeneration	685	2,276	4,625	7,732	11,597	16,221	21,791	28,178	35,382	43,404	52,244	62,424	73,510	85,502	98,398	112,201

PM Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas PM EF

PM Reductions (lb) - Moderate

Sector	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
SoCal_PowerPeakerBaseload	10,435	24,713	44,792	70,672	102,354	139,838	184,788	235,992	293,450	357,163	427,130	507,606	595,009	689,338	790,593	898,776
SoCal_PowerCogeneration	1,592	5,288	10,745	17,965	26,947	37,691	50,631	65,472	82,211	100,851	121,390	145,045	170,803	198,665	228,631	260,701

PM Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas PM EF

PM Reductions (lb) - Ambitious

Sector	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
SoCal_PowerPeakerBaseload	16,965	40,179	72,824	114,902	166,412	227,354	300,436	383,686	477,104	580,690	694,445	825,287	967,390	1,120,754	1,285,380	1,461,267
SoCal_PowerCogeneration	2,589	8,597	17,470	29,208	43,811	61,279	82,318	106,446	133,663	163,968	197,361	235,819	277,698	322,998	371,718	423,858

VOC Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas VOC EF

VOC Reductions (lb) - Conservative

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	1,593	3,773	6,838	10,790	15,627	21,349	28,212	36,029	44,801	54,529	65,210	77,497	90,841	105,242	120,701	137,217
SoCal_PowerCogeneration	234	777	1,579	2,640	3,960	5,539	7,441	9,622	12,082	14,822	17,840	21,317	25,102	29,197	33,601	38,314

VOC Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas VOC EF

VOC Reductions (lb) - Moderate

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	3,702	8,766	15,889	25,070	36,309	49,605	65,551	83,715	104,097	126,698	151,518	180,066	211,070	244,532	280,451	318,827
SoCal_PowerCogeneration	544	1,806	3,669	6,135	9,202	12,870	17,289	22,357	28,073	34,438	41,452	49,529	58,325	67,840	78,072	89,023

VOC Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas VOC EF

VOC Reductions (lb) - Ambitious

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	6,018	14,253	25,833	40,760	59,032	80,650	106,575	136,107	169,246	205,991	246,344	292,758	343,167	397,571	455,969	518,363
SoCal_PowerCogeneration	884	2,936	5,966	9,974	14,961	20,925	28,110	36,349	45,643	55,991	67,394	80,527	94,828	110,296	126,933	144,738

Total Hydrogen Demend = Blended Hydrogen Demand + 100% Hydrogen Demand

PRJ Overall H2 Demand - Conservative (MMBtu)

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	675,561	1,599,927	2,899,882	4,575,425	6,626,558	9,053,279	11,963,406	15,278,435	18,998,366	23,123,199	27,652,933	32,863,068	38,521,634	44,628,629	51,184,055	58,187,910
SoCal_PowerCogeneration	103,286	342,991	696,989	1,165,282	1,747,870	2,444,751	3,284,133	4,246,729	5,332,539	6,541,563	7,873,802	9,408,127	11,078,911	12,886,156	14,829,862	16,910,028

Total Hydrogen Demend = Blended Hydrogen Demand + 100% Hydrogen Demand

PRJ Overall H2 Demand - Moderate (MMBtu)

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	1,569,682	3,717,468	6,737,943	10,631,108	15,396,963	21,035,508	27,797,258	35,499,806	44,143,154	53,727,300	64,252,245	76,358,117	89,505,927	103,695,675	118,927,362	135,200,987
SoCal_PowerCogeneration	239,988	796,947	1,619,471	2,707,561	4,061,217	5,680,438	7,630,760	9,867,374	12,390,280	15,199,477	18,294,966	21,860,005	25,742,112	29,941,289	34,457,534	39,290,849

Total Hydrogen Demend = Blended Hydrogen Demand + 100% Hydrogen Demand

PRJ Overall H2 Demand - Ambitious (MMBtu)

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	2,552,054	6,044,014	10,954,829	17,284,500	25,033,025	34,200,406	45,193,941	57,717,066	71,769,781	87,352,085	104,463,979	124,146,211	145,522,469	168,592,754	193,357,066	219,815,404
SoCal_PowerCogeneration	390,183	1,295,710	2,633,004	4,402,066	6,602,895	9,235,492	12,406,408	16,042,788	20,144,634	24,711,944	29,744,719	35,540,907	41,852,600	48,679,796	56,022,497	63,880,701

PRJ 100%-H2 Demand - Conservative (MMBtu)

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_PowerPeakerBaseload	0	714,331	1,841,603	3,381,816	5,334,971	7,701,066	10,565,211	13,874,526	17,629,009	21,828,662	26,473,484	31,830,316	37,680,175	44,023,060	50,858,972	58,187,910
SoCal_PowerCogeneration	0	207,592	535,189	982,792	1,550,399	2,238,012	3,070,363	4,032,085	5,123,178	6,343,642	7,693,477	9,250,229	10,950,261	12,793,571	14,780,160	16,910,028

	A	B	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
102		**PRJ 100%-H2 Demand - Moderate (MMBtu)**																
103																		
104		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
105		SoCal_PowerPeakerBaseload	0	1,659,765	4,279,008	7,857,730	12,395,931	17,893,609	24,548,519	32,237,789	40,961,420	50,719,412	61,511,766	73,958,492	87,550,778	102,288,622	118,172,025	135,200,987
106		SoCal_PowerCogeneration	0	482,345	1,243,525	2,283,540	3,602,390	5,200,074	7,134,061	9,368,645	11,903,826	14,739,602	17,875,975	21,493,127	25,443,190	29,726,165	34,342,051	39,290,849
107																		
108		**PRJ 100%-H2 Demand - Ambitious (MMBtu)**																
109																		
110		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
111		SoCal_PowerPeakerBaseload	0	2,698,515	6,956,990	12,775,425	20,153,821	29,092,177	39,912,006	52,413,542	66,596,785	82,461,736	100,008,395	120,244,802	142,343,706	166,305,108	192,129,007	219,815,404
112		SoCal_PowerCogeneration	0	784,217	2,021,776	3,712,675	5,856,915	8,454,497	11,598,855	15,231,934	19,353,736	23,964,260	29,063,506	34,944,422	41,366,599	48,330,038	55,834,739	63,880,701
113																		
114		**PRJ Blend-H2 Demand - Conservative (MMBtu)**																
115																		
116		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
117		SoCal_PowerPeakerBaseload	675,561	885,596	1,058,278	1,193,609	1,291,587	1,352,213	1,398,195	1,403,910	1,369,357	1,294,537	1,179,449	1,032,752	841,459	605,569	325,083	0
118		SoCal_PowerCogeneration	103,286	135,398	161,800	182,490	197,470	206,739	213,770	214,643	209,361	197,921	180,326	157,897	128,650	92,585	49,702	0
119																		
120		**PRJ Blend-H2 Demand - Moderate (MMBtu)**																
121																		
122		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
123		SoCal_PowerPeakerBaseload	1,569,682	2,057,703	2,458,935	2,773,378	3,001,033	3,141,898	3,248,739	3,262,018	3,181,734	3,007,887	2,740,479	2,399,624	1,955,149	1,407,054	755,337	0
124		SoCal_PowerCogeneration	239,988	314,602	375,946	424,021	458,827	480,364	496,699	498,729	486,454	459,875	418,991	366,878	298,922	215,124	115,483	0
125																		
126		**PRJ Blend-H2 Demand - Ambitious (MMBtu)**																
127																		
128		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
129		SoCal_PowerPeakerBaseload	2,552,054	3,345,499	3,997,839	4,509,074	4,879,204	5,108,229	5,281,935	5,303,524	5,172,995	4,890,349	4,455,585	3,901,410	3,178,763	2,287,646	1,228,059	0
130		SoCal_PowerCogeneration	390,183	511,492	611,228	689,391	745,980	780,995	807,553	810,854	790,898	747,684	681,213	596,485	486,000	349,758	187,757	0

Hydrogen Demand Scenarios - Power Annual PM2.5 Displacement			
	Conservative	Moderate	Ambitious
	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)
2030	2.6	6.0	9.8
2035	38.2	88.8	144.3
2040	118.0	274.3	445.9
2045	249.5	579.7	942.6

Angles Link - Power Annual PM2.5 Displacement			
	Low	Medium	High
	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)
2030	0.7	1.9	2.5
2035	10.3	27.6	36.6
2040	31.7	85.4	113.1
2045	67.0	180.4	239.047

Hydrogen Demand Scenarios - Power Annual PM10 Displacement			
	Conservative	Moderate	Ambitious
	PM10 Displaced (tons)	PM10 Displaced (tons)	PM10 Displaced (tons)
2030	2.6	6.0	9.8
2035	38.2	88.8	144.3
2040	118.0	274.3	445.9
2045	249.5	579.7	942.6

Angles Link - Power Annual PM10 Displacement			
	Low	Medium	High
	PM10 Displaced (tons)	PM10 Displaced (tons)	PM10 Displaced (tons)
2030	0.7	1.9	2.5
2035	10.3	27.6	36.6
2040	31.7	85.4	113.1
2045	67.0	180.4	239.0

Hydrogen Demand Scenarios - Power Annual VOC Displacement			
	Conservative	Moderate	Ambitious
	VOC Displaced (tons)	VOC Displaced (tons)	VOC Displaced (tons)
2030	0.9	2.1	3.5
2035	13.4	31.2	50.8
2040	41.5	96.5	156.9
2045	87.8	203.9	331.6

Angles Link - Power Annual VOC Displacement

	Low	Medium	High
	VOC Displaced (tons)	VOC Displaced (tons)	VOC Displaced (tons)
2030	0.2	0.7	0.9
2035	3.6	9.7	12.9
2040	11.1	30.0	39.8
2045	23.6	63.5	84.086

Tab Contents

This tab was used to calculate PM and VOC displacement by hydrogen fuel substituion for natural gas in the industrial sector. These calculations were only performed for market demand quantities of hydrogen, AL-specific results can be found in the "1. PM_VOC_Overall_Results" tab. Market hydrogen values are from the demand study, copied from the "1.1 Data_Compilation_Industrial" tab of the "ALP1_NOx_IndustPow_3_DataPrep_SoCalGas" workbook.

Industrial Overall Market Hydrogen Demand (MMBtu)

Scenario	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Low	5,090,367	5,817,904	6,492,636	7,116,525	7,691,925	8,221,535	8,708,308	9,155,336	9,565,738	9,942,567	10,391,657	10,805,864	11,188,175	11,541,337	11,867,864	12,170,042
Mid	6,904,961	8,092,219	9,168,642	10,125,744	11,156,006	12,081,933	12,883,786	13,861,631	14,628,434	15,310,656	16,106,479	16,939,644	17,720,120	18,492,870	19,249,897	19,930,831
High	20,798,231	24,214,027	27,237,816	30,112,716	32,953,166	35,407,301	36,987,280	40,212,492	42,089,840	43,845,344	45,883,325	47,541,694	49,283,290	51,217,635	52,882,726	54,462,434

Industrial Overall Hydrogen - PM Displacement (lb)

Scenario	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Conservative	45,284	51,741	57,731	63,270	68,380	73,084	77,409	81,382	85,031	88,382	92,292	95,899	99,228	102,305	105,149	107,782
Moderate	59,322	69,478	78,651	86,750	95,576	103,454	110,210	118,641	125,087	130,770	137,352	144,323	150,838	157,312	163,686	169,383
Ambitious	153,075	178,269	200,583	221,624	242,664	260,855	272,862	296,458	310,398	323,324	338,289	350,827	363,828	378,141	390,643	402,405

Industrial Overall Hydrogen - VOC Displacement (lb)

Scenario	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Conservative	66,992	76,499	85,320	93,481	101,014	107,952	114,334	120,200	125,590	130,544	136,073	141,174	145,885	150,239	154,266	157,996
Moderate	81,432	95,236	107,594	118,326	130,361	140,936	149,795	161,462	169,869	177,116	185,360	194,344	202,694	211,069	219,415	226,760
Ambitious	122,103	142,432	160,490	176,837	194,171	209,220	220,357	238,603	250,261	260,650	272,531	283,930	295,094	306,869	317,873	327,849

PM Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas PM EF

PM Reductions (lb) - Conservative

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_Refineries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SoCal_FoodBeverage	9,779	11,228	12,568	13,804	14,940	15,981	16,935	17,806	18,603	19,330	20,481	21,540	22,517	23,417	24,248	25,015
SoCal_Metals	8,460	9,550	10,570	11,522	12,409	13,235	14,004	14,719	15,384	16,004	16,598	17,152	17,669	18,151	18,603	19,025
SoCal_StoneGlassCement	22,739	25,834	28,696	31,333	33,756	35,978	38,010	39,868	41,565	43,116	44,568	45,898	47,116	48,233	49,258	50,200
SoCal_Paper	2,685	3,192	3,665	4,104	4,512	4,890	5,239	5,562	5,861	6,137	6,569	6,971	7,344	7,692	8,015	8,317
SoCal_Chemicals	1,193	1,428	1,649	1,855	2,047	2,226	2,393	2,549	2,694	2,829	3,044	3,245	3,433	3,609	3,775	3,929
SoCal_AeroSpaceDefense	428	508	583	652	715	774	828	878	924	966	1,032	1,093	1,150	1,203	1,251	1,297

PM Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas PM EF

PM Reductions (lb) - Moderate

Sector	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
SoCal_Refineries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SoCal_FoodBeverage	20,385	24,039	27,470	30,714	33,843	36,836	39,654	42,439	45,183	47,799	51,008	54,103	57,051	59,890	62,563	65,090
SoCal_Metals	10,399	11,832	13,185	14,449	15,800	17,045	18,345	19,561	20,763	21,914	23,122	24,273	25,424	26,587	27,686	28,715
SoCal_StoneGlassCement	23,617	27,604	30,933	33,479	36,785	39,407	41,060	44,506	46,043	46,983	47,771	49,121	50,154	51,270	52,521	53,337
SoCal_Paper	3,021	3,661	4,274	4,872	5,452	6,012	6,546	7,063	7,561	8,053	8,741	9,409	10,077	10,712	11,331	11,930
SoCal_Chemicals	1,360	1,680	2,005	2,338	2,682	3,030	3,382	3,751	4,126	4,514	5,065	5,636	6,219	6,817	7,427	8,028
SoCal_AeroSpaceDefense	541	662	784	898	1,013	1,124	1,222	1,321	1,411	1,507	1,646	1,781	1,914	2,035	2,158	2,283

	A	B	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
51		**PM Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas PM EF**																
52		**PM Reductions (lb) - Ambitious**																
53																		
54		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
55		SoCal_Refineries	93,753	108,791	121,932	134,873	147,089	157,401	162,652	177,817	185,311	192,554	200,936	206,505	212,990	220,829	226,957	233,022
56		SoCal_FoodBeverage	20,385	24,039	27,470	30,714	33,843	36,836	39,654	42,439	45,183	47,799	51,008	54,103	57,051	59,890	62,563	65,090
57		SoCal_Metals	10,399	11,832	13,185	14,449	15,800	17,045	18,345	19,561	20,763	21,914	23,122	24,273	25,424	26,587	27,686	28,715
58		SoCal_StoneGlassCement	23,617	27,604	30,933	33,479	36,785	39,407	41,060	44,506	46,043	46,983	47,771	49,121	50,154	51,270	52,521	53,337
59		SoCal_Paper	3,021	3,661	4,274	4,872	5,452	6,012	6,546	7,063	7,561	8,053	8,741	9,409	10,077	10,712	11,331	11,930
60		SoCal_Chemicals	1,360	1,680	2,005	2,338	2,682	3,030	3,382	3,751	4,126	4,514	5,065	5,636	6,219	6,817	7,427	8,028
61		SoCal_AeroSpaceDefense	541	662	784	898	1,013	1,124	1,222	1,321	1,411	1,507	1,646	1,781	1,914	2,035	2,158	2,283
62																		
63																		
64		**VOC Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas VOC EF**																
65		**VOC Reductions (lb) - Conservative**																
66																		
67		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
68		SoCal_Refineries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69		SoCal_FoodBeverage	8,061	9,256	10,361	11,379	12,316	13,174	13,960	14,679	15,335	15,935	16,884	17,757	18,562	19,304	19,989	20,621
70		SoCal_Metals	14,041	15,851	17,544	19,124	20,596	21,967	23,243	24,430	25,534	26,563	27,548	28,468	29,325	30,127	30,876	31,577
71		SoCal_StoneGlassCement	37,741	42,878	47,628	52,006	56,028	59,714	63,088	66,171	68,988	71,562	73,973	76,179	78,201	80,055	81,756	83,320
72		SoCal_Paper	4,457	5,299	6,083	6,812	7,489	8,116	8,696	9,232	9,728	10,187	10,904	11,570	12,190	12,766	13,303	13,803
73		SoCal_Chemicals	1,980	2,371	2,737	3,078	3,398	3,695	3,972	4,230	4,471	4,695	5,052	5,386	5,698	5,991	6,265	6,522
74		SoCal_AeroSpaceDefense	711	844	967	1,082	1,187	1,285	1,375	1,457	1,534	1,604	1,713	1,815	1,909	1,996	2,077	2,152
75																		
76		**VOC Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas VOC EF**																
77		**VOC Reductions (lb) - Moderate**																
78																		
79		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
80		SoCal_Refineries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81		SoCal_FoodBeverage	16,805	19,817	22,646	25,320	27,899	30,367	32,689	34,985	37,247	39,404	42,050	44,601	47,031	49,371	51,575	53,658
82		SoCal_Metals	17,259	19,639	21,883	23,982	26,225	28,291	30,448	32,467	34,461	36,372	38,377	40,288	42,197	44,128	45,952	47,661
83		SoCal_StoneGlassCement	39,198	45,816	51,341	55,566	61,055	65,407	68,151	73,870	76,421	77,980	79,288	81,529	83,243	85,097	87,172	88,526
84		SoCal_Paper	5,014	6,076	7,094	8,087	9,049	9,978	10,864	11,723	12,550	13,367	14,507	15,616	16,725	17,779	18,807	19,800
85		SoCal_Chemicals	2,257	2,789	3,328	3,881	4,452	5,028	5,614	6,225	6,848	7,492	8,406	9,354	10,321	11,315	12,327	13,324
86		SoCal_AeroSpaceDefense	899	1,099	1,302	1,490	1,681	1,865	2,028	2,192	2,342	2,501	2,732	2,956	3,176	3,378	3,582	3,790
87																		
88		**VOC Reductions (lb) = Displaced Natural Gas MMBtu (Hydrogen Demand) * Natural Gas VOC EF**																
89		**VOC Reductions (lb) - Ambitious**																
90																		
91		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
92		SoCal_Refineries	40,672	47,196	52,897	58,511	63,810	68,284	70,562	77,141	80,392	83,534	87,170	89,586	92,400	95,800	98,459	101,090
93		SoCal_FoodBeverage	16,805	19,817	22,646	25,320	27,899	30,367	32,689	34,985	37,247	39,404	42,050	44,601	47,031	49,371	51,575	53,658
94		SoCal_Metals	17,259	19,639	21,883	23,982	26,225	28,291	30,448	32,467	34,461	36,372	38,377	40,288	42,197	44,128	45,952	47,661
95		SoCal_StoneGlassCement	39,198	45,816	51,341	55,566	61,055	65,407	68,151	73,870	76,421	77,980	79,288	81,529	83,243	85,097	87,172	88,526
96		SoCal_Paper	5,014	6,076	7,094	8,087	9,049	9,978	10,864	11,723	12,550	13,367	14,507	15,616	16,725	17,779	18,807	19,800
97		SoCal_Chemicals	2,257	2,789	3,328	3,881	4,452	5,028	5,614	6,225	6,848	7,492	8,406	9,354	10,321	11,315	12,327	13,324
98		SoCal_AeroSpaceDefense	899	1,099	1,302	1,490	1,681	1,865	2,028	2,192	2,342	2,501	2,732	2,956	3,176	3,378	3,582	3,790
99																		

	A	B	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
100																		
101		**From Demand Study**																
102		**PRJ Overall Market H2 Demand - Conservative (MMBtu)**																
103																		
104		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
105		SoCal_Refineries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106		SoCal_FoodBeverage	1,338,727	1,537,081	1,720,577	1,889,746	2,045,242	2,187,824	2,318,333	2,437,654	2,546,685	2,646,305	2,803,822	2,948,884	3,082,544	3,205,778	3,319,485	3,424,485
107		SoCal_Metals	893,875	1,009,132	1,116,892	1,217,466	1,311,202	1,398,478	1,479,692	1,555,254	1,625,567	1,691,025	1,753,778	1,812,301	1,866,921	1,917,942	1,965,639	2,010,265
108		SoCal_StoneGlassCement	2,402,692	2,729,715	3,032,112	3,310,784	3,566,830	3,801,530	4,016,291	4,212,594	4,391,934	4,555,777	4,709,259	4,849,740	4,978,432	5,096,440	5,204,766	5,304,310
109		SoCal_Paper	283,752	337,327	387,262	433,690	476,768	516,673	553,597	587,741	619,308	648,497	694,142	736,568	776,020	812,730	846,910	878,758
110		SoCal_Chemicals	126,072	150,937	174,219	195,981	216,293	235,231	252,875	269,308	284,614	298,874	321,598	342,856	362,752	381,383	398,839	415,204
111		SoCal_AeroSpaceDefense	45,249	53,711	61,574	68,857	75,589	81,799	87,519	92,784	97,629	102,088	109,057	115,516	121,505	127,063	132,224	137,020
112																		
113		**From Demand Study**																
114		**PRJ Overall Market H2 Demand - Moderate (MMBtu)**																
115																		
116		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
117		SoCal_Refineries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118		SoCal_FoodBeverage	2,790,675	3,290,884	3,760,664	4,204,771	4,633,048	5,042,861	5,428,608	5,809,861	6,185,479	6,543,638	6,983,042	7,406,714	7,810,298	8,198,879	8,564,869	8,910,842
119		SoCal_Metals	1,098,762	1,250,253	1,393,143	1,526,725	1,669,525	1,801,052	1,938,399	2,066,910	2,193,850	2,315,527	2,443,131	2,564,808	2,686,345	2,809,289	2,925,414	3,034,180
120		SoCal_StoneGlassCement	2,495,422	2,916,765	3,268,491	3,537,469	3,886,876	4,163,933	4,338,604	4,702,693	4,865,118	4,964,382	5,047,648	5,190,275	5,299,430	5,417,420	5,549,530	5,635,758
121		SoCal_Paper	319,173	386,800	451,638	514,806	576,101	635,246	691,646	746,325	798,952	850,947	923,558	994,158	1,064,760	1,131,863	1,197,306	1,260,536
122		SoCal_Chemicals	143,716	177,531	211,837	247,089	283,430	320,123	357,402	396,305	435,967	476,943	535,173	595,482	657,082	720,362	784,764	848,264
123		SoCal_AeroSpaceDefense	57,212	69,988	82,868	94,884	107,026	118,718	129,127	139,538	149,069	159,219	173,928	188,207	202,205	215,057	228,015	241,252
124																		
125		**From Demand Study**																
126		**PRJ Overall Market H2 Demand - Ambitious (MMBtu)**																
127																		
128		**Sector**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**
129		SoCal_Refineries	13,893,270	16,121,808	18,069,174	19,986,972	21,797,159	23,325,368	24,103,493	26,350,861	27,461,406	28,534,688	29,776,846	30,602,050	31,563,170	32,724,765	33,632,829	34,531,603
130		SoCal_FoodBeverage	2,790,675	3,290,884	3,760,664	4,204,771	4,633,048	5,042,861	5,428,608	5,809,861	6,185,479	6,543,638	6,983,042	7,406,714	7,810,298	8,198,879	8,564,869	8,910,842
131		SoCal_Metals	1,098,762	1,250,253	1,393,143	1,526,725	1,669,525	1,801,052	1,938,399	2,066,910	2,193,850	2,315,527	2,443,131	2,564,808	2,686,345	2,809,289	2,925,414	3,034,180
132		SoCal_StoneGlassCement	2,495,422	2,916,765	3,268,491	3,537,469	3,886,876	4,163,933	4,338,604	4,702,693	4,865,118	4,964,382	5,047,648	5,190,275	5,299,430	5,417,420	5,549,530	5,635,758
133		SoCal_Paper	319,173	386,800	451,638	514,806	576,101	635,246	691,646	746,325	798,952	850,947	923,558	994,158	1,064,760	1,131,863	1,197,306	1,260,536
134		SoCal_Chemicals	143,716	177,531	211,837	247,089	283,430	320,123	357,402	396,305	435,967	476,943	535,173	595,482	657,082	720,362	784,764	848,264
135		SoCal_AeroSpaceDefense	57,212	69,988	82,868	94,884	107,026	118,718	129,127	139,538	149,069	159,219	173,928	188,207	202,205	215,057	228,015	241,252

Hydrogen Demand Scenarios - Industrial Annual PM2.5 Displacement			
	Conservative	Moderate	Ambitious
	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)
2030	22.6	29.7	76.5
2035	36.5	51.7	130.4
2040	46.1	68.7	169.1
2045	53.9	84.7	201.2

Angles Link - Industrial Annual PM2.5 Displacement			
	Low	Medium	High
	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)	PM2.5 Displaced (tons)
2030	6.1	9.2	19.4
2035	9.8	16.1	33.1
2040	12.4	21.4	42.9
2045	14.5	26.4	51.028

Hydrogen Demand Scenarios - Industrial Annual PM10 Displacement			
	Conservative	Moderate	Ambitious
	PM10 Displaced (tons)	PM10 Displaced (tons)	PM10 Displaced (tons)
2030	22.6	29.7	76.5
2035	36.5	51.7	130.4
2040	46.1	68.7	169.1
2045	53.9	84.7	201.2

Angles Link - Industrial Annual PM10 Displacement			
	Low	Medium	High
	PM10 Displaced (tons)	PM10 Displaced (tons)	PM10 Displaced (tons)
2030	6.1	9.2	19.4
2035	9.8	16.1	33.1
2040	12.4	21.4	42.9
2045	14.5	26.4	51.028

Hydrogen Demand Scenarios - Industrial Annual VOC Displacement			
	Conservative	Moderate	Ambitious
	VOC Displaced (tons)	VOC Displaced (tons)	VOC Displaced (tons)
2030	33.5	40.7	61.1
2035	54.0	70.5	104.6
2040	68.0	92.7	136.3
2045	79.0	113.4	163.9

	X	Y	Z	AA	AB	AC
51						
52		**Angles Link - Industrial Annual VOC Displacement**				
53			**Low**	**Medium**	**High**	
54			**VOC Displaced (tons)**	**VOC Displaced (tons)**	**VOC Displaced (tons)**	
55		2030	9.0	12.7	15.5	
56		2035	14.5	21.9	26.5	
57		2040	18.3	28.8	34.6	
58		2045	21.2	35.3	41.574	
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Tab Contents

This tab contains emission factors and conversions factors used throughout this workbook. The emission factors are only used in tabs 1.1 and 1.2.

Emissions Factors								
Combustion Fuel	**Category**	**EF Type**	**Factor**	**Units**	**Converted Factor**	**Units**	**Notes**	**Source**
Natural Gas	External Combustion	Total PM	7.6	lb/ 10^6 scf	0.00711	lb/MMBtu	Total PM (condensible + filterable). Notes all partcles < 1um.	AP-42, 1.4 Natural Gas Combustion
Natural Gas	External Combustion	VOC	5.5	lb/ 10^6 scf	0.00514	lb/MMBtu		AP-42, 1.4 Natural Gas Combustion
Natural Gas	Turbine	Total PM	0.0066	lb/MMBtu	0.00660	lb/MMBtu	Total PM (condensible + filterable).	AP-42, 3.1 Natural Gas Stationary Gas Turbines
Natural Gas	Turbine	VOC	0.0021	lb/MMBtu	0.00210	lb/MMBtu		AP-42, 3.1 Natural Gas Stationary Gas Turbines
Natural Gas	Reciprocating Engine	Total PM	0.025769033	lb/MMBtu	0.02577	lb/MMBtu	Total PM (condensible + filterable). Average of factors for 2SLB, 2SRB, 4SLB. Notes all particles < 2.5um.	AP-42, 3.2 Natural Gas Reciprocating Engines
Natural Gas	Reciprocating Engine	VOC	0.0892	lb/MMBtu	0.08920	lb/MMBtu	Average of factors for 2SLB, 2SRB, 4SLB.	AP-42, 3.2 Natural Gas Reciprocating Engines

Other Factors				
Type	**Factor**	**Units**	**Source**	**Link**
	0.001	1,000 unit/ unit		
	0.000001	1,000,000 unit/ unit		
	1000000	Btu/ MMBtu		
Natural Gas	1069	Btu/ft3	Engineering Toolbox	Fuels - Higher and Lower Calorific Values (engineeringtoolbox.com)
Gasoline	122694	Btu/gal	Engineering Toolbox	Fuels - Higher and Lower Calorific Values (engineeringtoolbox.com)
Diesel	138412	Btu/gal	Engineering Toolbox	Fuels - Higher and Lower Calorific Values (engineeringtoolbox.com)
Kerosene	126663	Btu/gal	Engineering Toolbox	Fuels - Higher and Lower Calorific Values (engineeringtoolbox.com)
Natural Gas	1050	MMBtu/MMscf	EPA	c01s04.pdf (epa.gov)

Sector	Equipment Category	Throughput Fraction	Fractional EF PM (lb/MMBtu)	Fractional VOC EF (lb/MMBtu)
SoCal_CoGeneration	EC General	0.8%	0.0001	0.0000
SoCal_CoGeneration	EC Ovens	0.0%	0.0000	0.0000
SoCal_CoGeneration	IC Engines	0.2%	0.0000	0.0001
SoCal_CoGeneration	IC Turbines	99.0%	0.0065	0.0021
SoCal_FoodBeverage	EC General	98.6%	0.0070	0.0051
SoCal_FoodBeverage	EC Ovens	0.1%	0.0000	0.0000
SoCal_FoodBeverage	IC Engines	1.1%	0.0003	0.0009
SoCal_FoodBeverage	IC Turbines	0.3%	0.0000	0.0000
SoCal_ManufacturingIndustrial	EC General	81.2%	0.0058	0.0042
SoCal_ManufacturingIndustrial	EC Ovens	0.2%	0.0000	0.0000
SoCal_ManufacturingIndustrial	IC Engines	12.8%	0.0033	0.0114
SoCal_ManufacturingIndustrial	IC Turbines	5.8%	0.0004	0.0001
SoCal_Power	EC General	5.7%	0.0004	0.0003
SoCal_Power	EC Ovens	0.0%	0.0000	0.0000
SoCal_Power	IC Engines	0.1%	0.0000	0.0001
SoCal_Power	IC Turbines	94.2%	0.0062	0.0020
SoCal_Refining	EC General	21.2%	0.0015	0.0011
SoCal_Refining	EC Ovens	0.0%	0.0000	0.0000
SoCal_Refining	IC Engines	0.2%	0.0001	0.0002
SoCal_Refining	IC Turbines	78.6%	0.0052	0.0017

	PM (lb/MMBtu)	VOC (lb/MMBtu)
Cogeneration	6.635E-03	2.266E-03
Food and Beverage	7.305E-03	6.022E-03
Manufacturing and Industrial	9.464E-03	1.571E-02
Power	6.648E-03	2.358E-03
Refining	6.748E-03	2.927E-03

Table for Lookup

Sector	Equipment Mix Category	PM (lb/MMBtu)	VOC (lb/MMBtu)
SoCal_Refineries	Refining	0.0067	0.0029
SoCal_FoodBeverage	Food and Beverage	0.0073	0.0060
SoCal_Metals	Manufacturing and Industrial	0.0095	0.0157
SoCal_StoneGlassCement	Manufacturing and Industrial	0.0095	0.0157
SoCal_Paper	Manufacturing and Industrial	0.0095	0.0157
SoCal_Chemicals	Manufacturing and Industrial	0.0095	0.0157
SoCal_AeroSpaceDefense	Manufacturing and Industrial	0.0095	0.0157
SoCal_PowerPeakerBaseload	Power	0.00665	0.0024
SoCal_PowerCogeneration	Cogeneration	0.00664	0.0023