Company: Southern California Gas Company (U 904 G)
Proceeding: 2019 General Rate Case
Application: A.17-10-008
Exhibit: SCG-20-R

REVISED

SOCALGAS

DIRECT TESTIMONY OF ANDREW S. CHEUNG

(CUSTOMER SERVICES – INFORMATION)

December 2017

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

318554

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APPENDICES

SUMMARY OF REQUESTS

Test Year 2019 Summary of Total O&M Costs

CS - INFORMATION (In 2016 $)			
	2016 Adjusted-Recorded (000s)	TY 2019 Estimated (000s)	Change (000s)
Total Non-Shared Services	15,523	20,558	5,035
Total Shared Services (Incurred)	2,303	4,490	2,187
Total O&M	**17,826**	**25,048**	**7,222**

Test Year 2019 Summary of Total Capital IT Costs

INFORMATION TECHNOLOGY (In 2016 $)				
CS - Information	**2016 Adjusted-Recorded**	**Estimated 2017 (000s)**	**Estimated 2018 (000s)**	**Estimated 2019 (000s)**
Improving Customer Experience	0	3,287	5,959	12,483
Mandated	0	1,177	551	0
Total	**0**	**4,464**	**6,510**	**12,483**

I am requesting $25.048 million for Test Year (TY) 2019 operations and maintenance costs associated with the Customer Service – Information (CS-I) cost categories, representing an increase of $7.222 million over base year (BY) 2016 levels. This testimony describes the CS-I services and costs at Southern California Gas Company (SoCalGas). These services include account management services to residential, commercial and industrial customers, services for low-income and disadvantaged customers, and efforts to reduce greenhouse gas emissions and improve local air quality through supporting cleaner transportation and renewable gas options. Together, these customer-focused areas help ensure timely and effective customer communications regarding environmental and climate change policies, safety and reliability of the natural gas system, and programs to help customers manage their energy usage more efficiently and effectively. The CS-I function consists of the following major service areas:

- Customer Strategy and Engagement provides management of marketing and communications efforts across various channels and mediums to keep customers informed of the latest products, services, and programs;
- Customer Assistance Programs provides financial and energy conservation assistance to residential customers;

- Customer Segment Services manages customer energy needs, products, programs, services, and education and outreach necessary or beneficial to all customer segments;
- Clean Transportation Services manages and implements natural gas vehicles (NGV) products and programs; and
- Renewable Gas Customer Outreach manages and implements renewable gas products and programs.

My testimony provides estimated expenses for TY 2019 to support ongoing core activities, and requests authorization for incremental costs for the following activities:

- Increase customer awareness on environmental and climate change policies;
- Support low-income customers and disadvantaged communities;
- Enhance and expedite customer experience through social media and other new channels;
- Respond to market for clean transportation products in the heavy-duty trucking and other transportation sectors; and
- Increase support to implement renewable gas projects and offerings.

My testimony primarily adopts a five-year average forecast methodology to form a "baseline" forecast for most areas within CS-I. This forecasting methodology reduces anomalies in the forecast by smoothing costs attributable to business cycle fluctuations, routine employee attrition, and fluctuations associated with operations and maintenance (O&M) costs that are closely tied with other regulatory program cycles (*e.g.*, Customer Assistance) that are not aligned with the General Rate Case (GRC) cycle. The five-year average baseline forecast was further adjusted, where needed, to account for specific program growth and other incremental costs not reflected in historical cost data. Base year and a three-year average methodology is used to forecast the baseline of functions, activities or organizations that do not have 5-years of historical recorded expenses.

REVISED SOCALGAS DIRECT TESTIMONY OF ANDREW S. CHEUNG (CUSTOMER SERVICES – INFORMATION)

I. INTRODUCTION

A. Summary of Customer Services – Information Costs and Activities

My testimony supports the TY 2019 forecasted operations and maintenance costs for both non-shared and shared services, and capital costs for the forecast years 2017, 2018, and 2019, associated with the CS-I area for SoCalGas. Tables AC-1 and AC-2 summarize my sponsored costs:

TABLE AC-1
TY 2019 Summary of Total O&M Costs

CS - INFORMATION (In 2016 $)			
	2016 Adjusted-Recorded (000s)	**TY 2019 Estimated (000s)**	**Change (000s)**
Total Non-Shared Services	15,523	20,558	5,035
Total Shared Services (Incurred)	2,303	4,490	2,187
Total O&M	**17,826**	**25,048**	**7,222**

TABLE AC-2
TY 2019 Summary of Total Capital IT Costs

INFORMATION TECHNOLOGY (In 2016 $)				
CS - Information	**2016 Adjusted-Recorded**	**Estimated 2017 (000s)**	**Estimated 2018 (000s)**	**Estimated 2019 (000s)**
1. Improving Customer Experience	0	3,287	5,959	12,483
2. Mandated	0	1,177	551	0
Total	**0**	**4,464**	**6,510**	**12,483**

CS-I provides customer service through multiple channels with solutions to enhance the ability of SoCalGas' customers to understand and manage their energy usage. CS-I's services include customer communication, research, outreach, and education, account management services to residential, commercial and industrial customers, services for low-income and disadvantaged customers, and efforts to reduce greenhouse gas emissions and improve local air quality through supporting clean transportation and renewable gas options. Together, these services help ensure timely and relevant customer contact through multiple channels regarding climate change

policies, safety and reliability of the natural gas system and energy conservation to all customers designed to help manage energy usage more efficiently and effectively.

The most significant imperatives facing CS-I relate to the passage of ever more ambitious state greenhouse gas reduction goals, the focus on the special needs of disadvantaged communities (DACs), and our customers' ever-increasing desire for faster communication through multiple channels. These imperatives require incremental activities and costs to ensure that we meet our customers' needs.

California is pushing beyond the initial goals of the Global Warming Solutions Act of 2006, Assembly Bill 32 (AB 32) with the passage in 2016 of Senate Bill 32 (SB 32), which established a new goal to reduce greenhouse gas (GHG) emissions to forty percent (40%) below 1990 levels by 2030. The legislature has also set a goal to reduce short-lived climate pollutants (SLCP), one of which is methane, through the passage of Senate Bill 1383 (SB 1383). To achieve the methane reduction goal of 40% below 2013 levels by 2030, "state agencies shall consider and, as appropriate, adopt policies and incentives to significantly increase the sustainable production and use of renewable gas, including biomethane and biogas."[1]

In addition, the state legislature, through passage of the Clean Energy and Pollution Reduction Act of 2015 (SB 350), stated that "advanced clean vehicles and fuels are needed to reduce petroleum use, to meet air quality standards, to improve public health, and to achieve greenhouse gas emissions reduction goals."[2] SB 32, SB 1383 and SB 350 provide the foundation and proposed programs for natural gas utilities to help their customers manage energy usage more efficiently and reduce GHG emissions.

To address the impacts of climate change on DACs, the state legislature passed a companion bill to SB 32, Assembly Bill 197 (AB 197), which reviews and enhances the benefits of climate change programs for DACs and requires California Air Resources Board (CARB) to consider the social costs of GHG emissions. In addition, AB 197 prioritizes "direct emission reductions from mobile sources,"[3] and highlights the disproportionate impact of climate change

[1] California Health and Safety Code § 39730.8(c).

[2] California Public Utilities Code § 740.12(a)(1)(A).

[3] California Health and Safety Code § 38562.5(a).

on disadvantaged communities.[4] In alignment with AB 197, SB 1383 provides that "efforts to reduce emissions of short-lived climate pollutants should focus on areas of the state that are disproportionately affected by poor air quality."[5]

From a regulatory standpoint, CARB is charged with developing a framework to meet California's ambitious GHG reduction goals, and it does this through the Scoping Plan, which it updated in a draft released on January 20, 2017.[6] The Scoping Plan provides the roadmap for California to achieve the 2030 goal by describing the various state programs that contribute to GHG emission reductions, and "ensur[ing] the equitable transformation of the economy with a focus on investments to improve the environment and clean the air in the neighborhoods, communities and systems throughout the state that need them the most."[7] In support of SB 1383, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy in March 2017, which outlined various programs to reduce SLCPs to "provide a wide array of climate, health, and economic benefits throughout the State."[8]

The California Environmental Protection Agency (CalEPA) is responsible for identifying the most vulnerable communities using a tool called CalEnviroScreen,[9] which analyzes

[4] "Continuing to reduce greenhouse gas emissions is critical for the protection of all areas of the state, but especially for the state's most disadvantaged communities, as those communities are affected first, and most frequently, by adverse impacts of climate change, including increased frequency of extreme weather events such as drought, heat, and flooding. The state's most disadvantaged communities are also disproportionately impacted by the deleterious effects of climate change on public health." AB 197 § 1(c).

[5] SB 1383, Sec. 1(a)(5).

[6] The Scoping Plan "was guided by, and fully addresses, direction provided by the Legislature and includes public comment from 15 Scoping Plan workshops statewide and the input of the Environmental Justice Advisory Committee (EJAC) and many stakeholders." The 2017 Climate Change Scoping Plan Update, at ES2.

[7] *Id*. at ES6.

[8] Specifically, "[t]he State's organic waste should be put to beneficial use, such as soil amendments/compost, electrical generation, transportation fuel, and pipeline-injected renewable natural gas." Short-Lived Climate Pollutant Reduction Strategy, CARB, March 2017, at 3.

[9] In early 2017, the Office of Environmental Health Hazard Assessment (OEHHA) released CalEnviroScreen 3.0, which better reflects "environmental conditions and a population's vulnerability to environmental pollutants." Identifying Disadvantaged Communities, CalEPA, February 2017, at 1. https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

geographic, socioeconomic, public health, and environmental hazard criteria.[10] Over nine million people, representing nearly a quarter of the total state population, live in a disadvantaged community,[11] and a majority of the top 25% of disadvantaged communities (as defined by CalEnviroScreen 3.0) are located in SoCalGas' service territory.[12]

Additional legislative and regulatory imperatives, described in the testimony of Lisa Alexander, SoCalGas – Customer Services - Technologies, Policies & Solutions (Exhibit SCG-21, Appendix A), drive a number of environmental quality and public health and safety goals including pipeline safety and reliability, and nitrogen oxide (NOx) and particulate matter emissions reductions. Alternative and renewable fuel developments provide the impetus for clean transportation support, while the Bioenergy Action Plan[13] outlines the strategies and actions that California state agencies will take to increase bioenergy development in California, thereby providing an additional driver for the renewable gas program.

Growth in social media has exploded in the last few years. From 2012 to 2016, subscribers to SoCalGas' social media outlets have grown 330%.[14] Furthermore, more and more information is being consumed via online video, and "video is projected to claim more than 80% of all web traffic by 2019."[15] Additional resources are needed to meet customers' expectations

[10] These criteria may include the following: areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure or environmental degradation, and areas with concentrations of people that are of low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of educational attainment." Id. at 2.

[11] Protecting the Most Vulnerable, Luskin Center, April 2016, at 3.

[12] As determined by comparing the zip codes in SoCalGas' service territory against the zip codes of the top 25% of disadvantaged communities. (https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.)

[13] 2012 Bioenergy Action Plan, August 2012. The plan "outlines state agency actions that: 1) stimulate cost-effective utilization of the state's diverse biomass resources for conversion to "low-carbon" biofuels, biogas, and renewable electricity; 2) increase research, development and demonstration of bioenergy toward commercializing new technologies; 3) streamline the regulatory and permitting processes; and 4) quantify and monetize the benefits of bioenergy." *Id*. at iii.

[14] SoCalGas' social media followers (Facebook fans, Twitter followers, Instagram followers) were 13,974 in 2012 and 47,149 in 2016.

[15] "Video Marketing: The Future of Content Marketing", February 3, 2017, (https://www.forbes.com/sites/forbesagencycouncil/2017/02/03/video-marketing-the-future-of-content-marketing/#56bf656d6b53).

and desire for faster communication through multiple channels, including social media and video.

Regarding costs, my testimony provides estimated expenses for TY 2019 to support ongoing core activities, and requests the following incremental activities and resources be authorized:

- To increase support and analysis on the impacts to customer markets related to state environmental and climate change priorities and communicate those priorities to customers;
- To expand communication and outreach to engage customers in disadvantaged communities;
- To streamline information on all communication mediums and increase services and communications through more e-Channels (*e.g.*, short messaging service (SMS) text, mobile applications, and social media);
- To expand customer research and analyses, and to enhance customer services offerings;
- To increase the number of Natural Gas Appliance Testing (NGAT) treated homes driven by the Energy Savings Assistance Program (ESAP);
- To expand customer account support to increase awareness and accessibility to services and products for residential, commercial and industrial customers; and
- To implement clean transportation and renewable gas programs consistent with California's legislative and regulatory efforts to reduce GHG emissions, SLCPs, and criteria air pollutants.

In addition to sponsoring my own organization's costs, my testimony also supports business justification for the following area:

- Information Technology (IT) capital costs for technology that supports Customer Services - Information are sponsored by SoCalGas witness Christopher Olmsted (Ex. SCG-26); however, I will cover in my testimony the business rationale for those costs.

B. Summary of Safety and Risk-Related Costs

NGAT costs supported in my testimony are driven by activities described in SoCalGas and San Diego Gas & Electric's (SDG&E) November 30, 2016 Risk Assessment Mitigation

Phase (RAMP) Report.[16] The RAMP Report presented an assessment of the key safety risks of SoCalGas and SDG&E and proposed plans for mitigating those risks. As discussed in the Risk Management testimony chapters of Diana Day and Jamie York (Exhibit SCG-02/SDG&E-02, Chapters 1 and 3, respectively), the costs of risk-mitigation projects and programs were translated from that RAMP Report into the individual witness areas.

In the course of preparing my GRC forecasts, I continued to evaluate the scope, schedule, resource requirements and synergies of RAMP-related projects and programs. Therefore, the final representation of RAMP costs may differ from the ranges shown in the original RAMP Report. NGAT is performed through the ESAP, and is a safety measure included in the RAMP filing to help mitigate exposure to carbon monoxide (CO).

As part of the services offered under ESAP, SoCalGas performs NGAT in homes that receive air infiltration measures such as weather-stripping, caulking, or window and door repair. For safety purposes, contractors are required to perform an inspection of all natural gas appliances in the home. The process involves an operational evaluation of each gas appliance as well as the measurement of carbon monoxide levels within the living space. The Low-Income Energy Efficiency (LIEE) proceeding decision, D.08-11-031, ordered SoCalGas to charge NGAT to base rates rather than to the Public Purpose Program funds as a "basic utility service."[17]

[16] I.16-10-015/I.16-10-016 Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016. Please also refer to Exhibit SCG-02/SDG&E-02, Chapter 1 (Diana Day) for more details regarding the utilities' RAMP Report.

[17] D.08-11-031, OP 65, at 212.

Table AC-3 provides a summary of the RAMP-related costs supported by my testimony.

TABLE AC-3
Summary of RAMP Overlay

CS - INFORMATION (In 2016 $)			
RAMP Risk Chapter	**2016 Embedded Base Costs (000s)**	**TY 2019 Estimated Incremental (000s)**	**Total (000s)**
SCG-2 Employee, Contractor, Customer and Public Safety	1,489	1,237	2,726
Total O&M	**1,489**	**1,237**	**2,726**

C. Summary of Costs Related to Fueling our Future (FOF)

As described in the joint testimony of Hal Snyder and Randall Clark (Ex. SCG-03/SDG&E-03), SoCalGas and SDG&E initiated the Fueling Our Future (FOF) initiative in May 2016, to identify and implement efficient operations improvements. Various workgroups in CS-I benefit from the FOF initiative. The details of the FOF improvements and the savings to be realized as a result of implementing them relate to both labor and non-labor costs and are included in each of the impacted workgroups in this testimony. Table AC-4 provides a summary of the FOF cost efficiencies described in my testimony.

TABLE AC-4
Summary of FOF Costs

FOF-Ongoing/<Benefits>	**Estimated 2017 (000s)**	**Estimated 2018 (000s)**	**Estimated 2019 (000s)**
2IN001.000, CI-Customer Strategy and Engagement -	-182	-199	-199
2IN002.000, CI-Customer Assistance Programs	-93	-421	-430
2IN004.000, CI-Customer Segment Services	-90	-251	-408
Total	**-365**	**-871**	**-1,037**

D. Summary of Aliso-Related Costs

In compliance with D.16-06-054,[18] the testimony of witness Andrew Steinberg (Ex. SCG-12) describes the process undertaken so the TY 2019 forecasts do not include the additional costs from the Aliso Canyon Storage Facility gas leak incident ("Aliso Incident"), and demonstrates that the itemized recorded costs are removed from the historical information used by the impacted GRC witnesses.

As a result of removing historical costs related to the Aliso Incident from CS-I adjusted recorded data, and in tandem with the forecasting method(s) employed and described herein, additional costs of the Aliso Incident response are not included as a component of my TY 2019 funding request. Historical CS-I costs that are related to the Aliso Incident are removed as adjustments in my workpapers (Ex.-SCG-20-WP) and also are identified in Table AC-5 below.

TABLE AC-5
Summary of Excluded Aliso-Related Costs

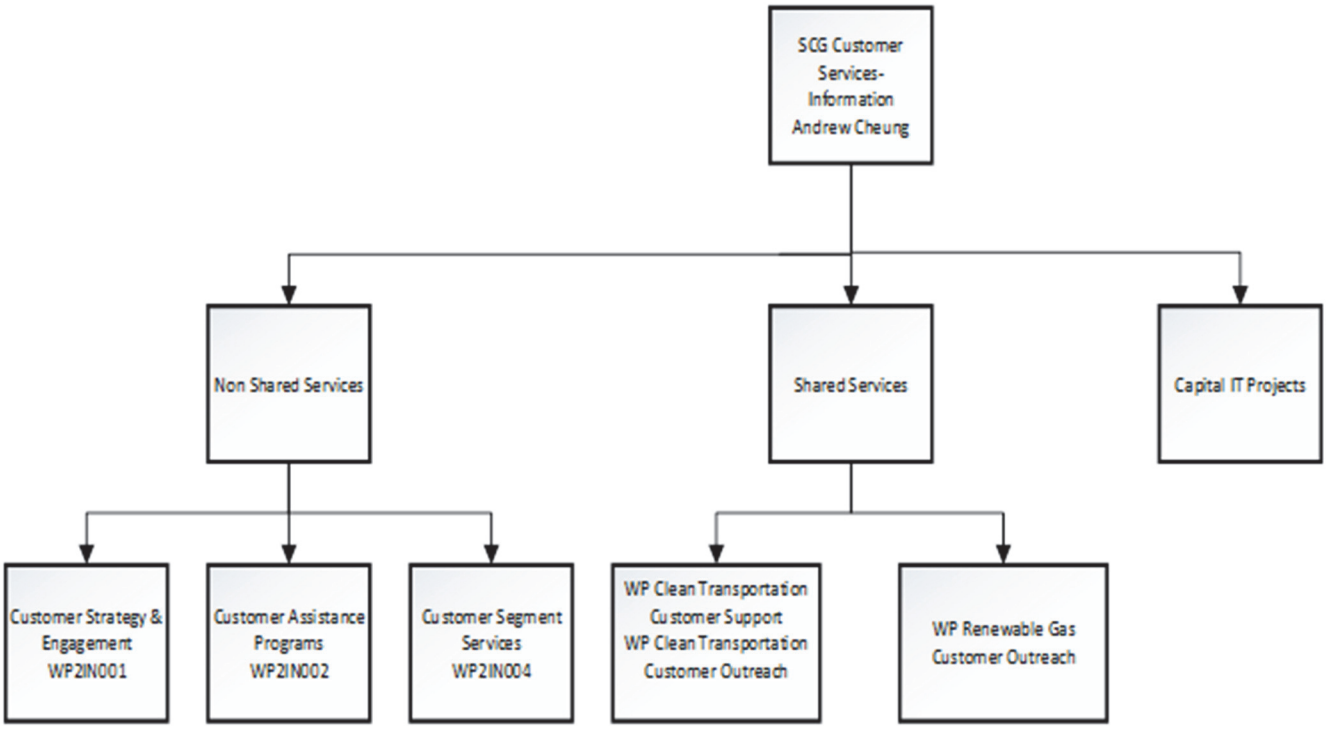
CS – INFORMATION			
Workpaper (In 2016 $)	**2015 Adjustment (000s)**	**2016 Adjustment (000s)**	**Total (000s)**
2IN001.000, CI-Customer Strategy and Engagement -	-212	-3,248	-3,460
2IN002.000, CI-Customer Assistance Programs	-8	-177	-186
2IN004.000, CI-Customer Segment Services	-32	-2,025	-2,056
Total Non-Shared	**-252**	**-5,450**	**-5,702**
2200-2286.000, Renewable Gas	0	-12	-12
2200-2560.000, Clean Transportation - Program	0	-37	-37
Total Shared Services	**0**	**-49**	**-49**
Total O&M	**-252**	**-5,499**	**-5,751**

[18] D.16-06-054, mimeo, at 332 (Ordering Paragraph 12), and 324 (Conclusion of Law 75)

E. Organization of Testimony

My testimony is organized into four main categories: Risk Assessment Mitigation Phase and Safety Culture, Non-Shared Services Costs, Shared Services Costs, and Capital Projects. Sub-categories have been created for further organization. The categories and sub-categories are shown in Figure AC-1 below:

FIGURE AC-1
Organization of Testimony



These customer-facing areas focus on meeting customers' needs and expectations on the safety, reliability and conservation of natural gas. Additionally, these areas are responsible for providing information to customers about climate change policies, products, and services that are relevant to non-residential and residential customers. My test year forecasts are divided into three categories – non-shared services, shared services, and capital. Non-shared services expenses are O&M expenses incurred only by SoCalGas and are discussed in Section III. Shared services expenses are O&M expenses incurred by SoCalGas on behalf of both SoCalGas and SDG&E, and are discussed in Section IV. Capital requirements are identified in Section V; however, capital expenditure forecasts are provided in the SoCalGas testimony of Mr. Olmsted (Ex. SCG-26).

F. Summary of Advanced Metering Infrastructure (AMI) Integration into TY 2019

By TY 2019, SoCalGas' AMI deployment will be completed, and therefore, the costs associated with the deployment and post-deployment phases, including the related O&M benefits, will no longer be recorded to the AMI Balancing Account. In this GRC, AMI operating impacts will be integrated into base business operations for the first time. Accordingly, I have incorporated forecasts and explanations for the associated on-going costs for CS-I into my testimony. In addition, in the AMI testimony of Rene Garcia (Ex. SCG-17), SoCalGas is proposing an on-going O&M team required to monitor, operate, maintain, and optimize the AM system (Advanced Meter Operations).

II. RISK ASSESSMENT MITIGATION PHASE AND SAFETY CULTURE

A. Risk Assessment Mitigation Phase

As illustrated in Table AC-6, part of my requested funds is linked to mitigation of a top safety risk identified in the RAMP Report.

TABLE AC-6
RAMP Mitigation Activities

RAMP Risk	Description
Employee, Contractor, and Public Safety	The risk of non-adherence to safety programs, policies and procedures, which may result in severe harm to employees, contractors, and the general public. NGAT is a safety measure included in the RAMP filing to help mitigate customers' exposure to unsafe levels of carbon monoxide.

In developing my request, priority was given to key safety risks to determine which currently established risk control measures were important to continue and what incremental efforts were needed to further mitigate these risks.

Identifying incremental requests that help to mitigate these risks manifest themselves in my testimony as adjustments to my forecasted costs. This adjustment process was used to identify both RAMP mitigation costs embedded as part of traditional and historical activities, as well as forecasted RAMP-incremental costs and FOF savings, which are also associated with mitigation strategies and correspond to historical or new activities. These can be found in my workpapers as described below. The general treatment of RAMP forecasting is described in the

testimony of RAMP to GRC Integration witness Jamie York (Exhibit SCG-02/SDG&E-02, Chapter 3).

In the course of preparing my GRC forecasts, I evaluated the scope, schedule, resource requirements and synergies of RAMP-related projects and programs. Therefore, the final representation of RAMP costs may differ from the ranges shown in the original RAMP Report. The forecasted costs are based on the number of homes that are likely to require NGAT services, which is based on the annual mandated goal for SoCalGas' ESAP.[19] Table AC-7 provides a summary of the RAMP-related costs, by RAMP risk, supported by my testimony.

TABLE AC-7
Southern California Gas Company
Total Cost by Project

SCG-2 Employee, Contractor, and Public Safety (In 2016 $)			
NGAT	**2016 Embedded Base Costs (000s)**	**TY 2019 Estimated Incremental (000s)**	**Total (000s)**
2IN002.000. CI-Customer Assistance Programs	1,489	1,237	2,726
Total	**1,489**	**1,237**	**2,726**

My incremental request supports the on-going management of risks that could pose significant safety, reliability and/or financial consequences to our customers and employees. The request includes NGAT, described previously in the summary of safety and risk-related costs, which mitigates our customers' exposure to carbon monoxide. Per D.05-04-052, "[W]here a cost is one the utility would have to incur regardless of the presence of the low-income programs, it should be funded in base rates, rather than by the limited/earmarked PGC surcharge."[20] Pursuant to this decision, the base rate funded O&M NGAT activities are costs allocated for recovery. NGAT is part of ESAP, a CPUC-approved program, and has been addressing the safety risks posed from installing air infiltration measures through energy efficiency improvements, therefore SoCalGas has not explored any alternatives to the NGAT program.

[19] D.16-11-022, OP 79 at 470.

[20] D.05-04-052, at 52. (PGC: public goods charge also known as public purpose charge, or PPP).

B. Safety Culture

SoCalGas is committed to providing safe and reliable service to its customers. Our safety culture focuses on public, customer, and employee safety, with this commitment embedded in every aspect of our work. Our safety culture efforts include continuing and enhancing communication programs to inform our customers how to be safe around natural gas, what to do in the event of an emergency concerning natural gas, and how to ensure that customers' homes and businesses are safe from the accumulation of natural gas.

CS-I efforts toward achieving a safety culture include both internal and external communications. Internal communications occur through various channels including socalgas.com, and the Gaslines intranet. External communications occur through print, broadcast media, direct mail, brochures, flyers, and bill enclosures, as well as more targeted channels such as website content, emails, e-newsletters, and social and interactive media.

Safety communications through internal and external channels include customer communication of specific safety messages, easily accessible information for the public on gas system safety, and quick and timely information in the event of emergencies. The more well-informed our employees and customers are, the greater the potential that emergencies are avoided, and when and if they occur, that the proper actions are taken.

In addition to communications programs, CS-I utilizes other programs (including NGAT) to address specific safety risks such as customers' potential exposure to carbon monoxide. These safety risk mitigation programs are part of the overall portfolio of services CS-I offers to its customers.

III. NON-SHARED SERVICES COSTS

TABLE AC-8
Non-Shared O&M Summary of Costs

CS - INFORMATION (In 2016 $)			
A. CS-Information	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Customer Strategy and Engagement	5,184	7,102	1,918
2. Customer Assistance	1,968	3,438	1,470
3. Segment Services	8,371	10,018	1,647
Total	**15,523**	**20,558**	**5,035**

"Non-shared services" are activities that are performed by SoCalGas for the direct benefit of its customers and that do not need to be allocated out to other business units. Table AC-8 summarizes the total non-shared O&M forecasts for the listed cost categories.

A. Customer Strategy and Engagement - Workpaper 2IN001

Table AC-9 below summarizes SoCalGas' requested TY 2019 expenses for Customer Strategy and Engagement (CSE).

TABLE AC-9
TY 2019 Summary of Non-Shared Customer Strategy and Engagement Costs

CS - INFORMATION (In 2016 $)			
A. CS-Information	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Customer Strategy and Engagement	5,184	7,102	1,918
Total	**5,184**	**7,102**	**1,918**

1. Description of Costs and Underlying Activities

The CSE organization has the responsibility for managing SoCalGas' customer communications across all segments and mediums. The primary functions and objectives of CSE are to:

- Provide prompt communications to customers through all channels with the objective to build awareness of and improve access to existing and new utility services, programs and resources;
- Educate customers and stakeholders about natural gas, energy management, billing options, payment options, assistance and rebate programs, and natural gas safety;
- Adopt and maintain relevant communication channels;
- Conduct customer research and analysis to understand customer service needs, preferences, and products;
- Enforce intellectual property requirements across internal and external communications; and
- Enforce Web Access Standards to ensure that web pages and PDF documents available on the website are compliant with current accessibility standards.

The following provides further details regarding the four areas managed by Customer Strategy and Engagement, as well as details regarding primary cost drivers within these areas.

Customer Marketing and Communications

The Customer Marketing and Communications team is primarily responsible for supporting the objectives and goals of SoCalGas by developing marketing, communication strategies, and plans, in addition to overseeing the execution of campaigns. To achieve this, the team must monitor and analyze market trends, evaluate and utilize customer research, and identify target markets and strategies to effectively communicate with the specific market segment and increase customer engagement. To help increase the effectiveness of communications for targeted customers, messages are adapted and delivered with culturally-relevant content and in a variety of languages such as English, Spanish and various Asian languages.

Examples of costs incurred by Customer Marketing and Communications include labor and non-labor costs related to the annual general pipeline safety and awareness campaign to the public,[21] the "Winter Demand Campaign" that helps customers manage their winter gas bills and seasonal appliance safety, and ongoing campaigns to build awareness of newer, electronically-based customer services and information. Customers receive communications through a variety of traditional channels such as print advertisements, broadcast media, direct mail, brochures, flyers, point-of-sale displays, and bill enclosures, as well as more targeted channels such as website content, emails, e-newsletters, and social and interactive media. Using both internal resources and external vendors, the Customer Marketing and Communications team ensures that customer messages are accurate and consistent regardless of which channel the message is being conveyed through.

Creative Services

The Creative Services team supports the Customer Marketing and Communications team and manages day-to-day activities associated with graphic design, scheduling and production for bill enclosures, as well as for various printed and electronic materials, such as brochures, flyers, posters and newsletters. Creative Services is also responsible for protecting the SoCalGas brand

[21] The general pipeline safety and awareness campaign is an annual multi-media mass market campaign that provides an amplified approach to raise awareness about pipeline safety and what to do in the event of an emergency. The primary messages of the campaign include: Call 811 Before You Dig and Know How to Recognize and Respond in the Event of a Gas Leak. With the ongoing risk of dig-ins occurring during construction and/or do-it-yourself projects, it is critical for customers to have a clear awareness of how to keep themselves and those around them safe when it comes to natural gas. The campaign supplements SoCalGas' mandated, targeted outreach, by deploying brochures, emails and bill inserts relevant to customers.

from infringement thereby reducing customer confusion that may otherwise result in customers sharing their personal information with malicious sources. Additionally, this team organizes and implements various external outreach events annually.

In particular, the materials created by the Creative Services team support numerous SoCalGas programs and services-related education and outreach efforts and the bill enclosures that are mandated by the CPUC. Moreover, the Creative Services team oversees the use of the SoCalGas logo and name, and associated compliance with various copyright, trademark and creative usage rights requirements. The SoCalGas name is trademarked and requires oversight to ensure proper and legal usage by both internal departments and outside entities. Creative Services ensures that legal and mandated affiliate disclaimers appear on all company (*e.g.*, energy efficiency and low-income programs) and third-party materials. This protects customers by ensuring information provided with the SoCalGas name or logo legitimately comes from SoCalGas, and reduces customer confusion and/or misperception when the SoCalGas name or logo appears on printed or electronic materials.

Costs that are within this area for ongoing creative services projects include the following:

- Managing an extensive database of catalogued images and videos, which include updating expiring licensed images, maintaining legal releases of images, and arranging periodic photo and video shoots for new content;
- Conducting or supporting customer events, such as county fairs, festivals, and business symposiums;
- Producing an annual report of SoCalGas' diversity of vendor relationships based on Diverse Business Enterprises (DBE) Group's metrics, which is distributed to the CPUC and DBE vendors; and
- Improving the reading accessibility of printed communications through efforts such as ensuring that all links and new PDF documents posted on socalgas.com have been formatted in an accessible format that allows the reader to review them using a screen reader.

<u>Customer Insights and Analytics.</u>

The Customer Insights and Analytics team manages all customer research, supporting numerous areas within Customer Strategy and Engagement and throughout SoCalGas. They monitor customer experience and provide insight into what drives consumer perceptions, behavior, and needs. The team is responsible for conducting ongoing quantitative and qualitative

customer research and data analysis to evaluate and anticipate customer needs and expectations of SoCalGas' programs and services. They are also responsible for SoCalGas' Customer Experience Study, internal tracking studies, Customer Insight Panels, mandated pipeline awareness research, and disadvantaged communities and low-income customer research.

In addition, this team manages research and data analysis efforts to support crisis communications, including compliance/community notifications, safety, customer experience, evaluation of energy usage and behaviors by customer segment and conservation efforts. Costs for ongoing research projects, such as customer satisfaction measurement, are included within this area.

Digital Engagement

The SoCalGas Digital Engagement team is responsible for defining the digital strategy for customer interactions via the online portals and tools (socalgas.com, My Account residential, My Account business, mobile, outbound email, SMS text and non-marketing social media), the policies that govern these services, and the expansion of digital customer interactions, through multiple channels based on customer trends and internal analytics. Similarly, the team is responsible for product management and user experience design for the eServices and payment options available in My Account.

Costs associated with the administration of the day-to-day management and maintenance of socalgas.com, such as web user interface development and optimization, website usage analytics, web technical standards including accessibility standards for customers with disabilities, videos regarding safety, high bill, and frequently asked questions, streaming media posting, website governance and the Content Management System (CMS) are covered by this team. A significant amount of effort has been placed on relaunching our website to address accessibility requirements, and SoCalGas successfully passed an assessment of the website that was conducted by accessibility consultant "Knowbility" in December 2016. Since then, SoCalGas continues to modify and enhance the site and facilitate access for individuals with vision disabilities. In addition, Digital Engagement is responsible for the costs for administration and design of GasLines, which is an intranet used at SoCalGas to coordinate the many websites needed by employees and for the storage and dissemination of information to employees. Finally, the costs for managing the outbound email communications, opt-in/out of email

communications, and SMS texts used to provide information to customers and allow customers to perform transactions are also included in this section.

2. Forecast Method

The forecast method used for the CSE cost category is the five-year historical average with adjustments for incremental costs and FOF savings. The five-year forecast methodology yields a baseline forecast amount of $6.081 million. This forecasting methodology reduces variances by leveling costs attributable to cyclical activities such as employee and/or business cycle fluctuations, and unusual operating conditions.

The five-year average baseline forecast was further adjusted, where needed, to account for specific program growth, FOF savings, and other incremental costs not reflected in historical cost data. Furthermore, the baseline forecasts were adjusted to reflect significant personnel movement resulting from specific company reorganizations and realignments, (*i.e.*, the Aliso Canyon incident). Consequently, these adjustments present an accurate five-year history of expenses that CSE has incurred for core business activities, and presents a reasonable period to capture periodic and recurring non-labor expenses, without selectively isolating historical expenses to overstate or understate costs.

3. Cost Drivers

CSE's total adjusted-recorded expenditures of $5.184 million in BY 2016 consisted of $1.562 million in labor costs and $3.622 million in non-labor costs. Collectively, these expenditures provided a foundational level of general customer communications, such as the "Winter Demand Campaign," research, customer satisfaction studies, and website support. The costs for this area include employee labor and expenses, software license fees, as well as related external contractor support. The increase in climate change policies, targeted communications in DACs, social media channels, and customer education around storage and safety are the primary cost drivers impacting the CSE area.

For TY 2019, SoCalGas is requesting a total of $7.102 million for CSE. This forecast is based on a five-year average cost with an incremental funding request of $1.021 million above the five-year average to accomplish the following:

- Increase communications on the impacts of climate change, and programs and products available to low-income customers and DACs;

- Provide additional creative services graphic design, scheduling, and production of printed and electronic material necessitated by the increased communications activities;
- Enhance research and analyses to help better inform customer communication preferences, service offerings, content, and trends;
- Increase education in response to public debate and media exposure over gas safety, climate change policy, appropriate appliance use, carbon monoxide poisoning awareness, and earthquake response by customers; and
- Expand social media and text messaging to communicate relevant information across more social media channels.

To support these imperatives, the group will require the following increases in labor and non-labor costs as shown in Table AC-10.

TABLE AC-10
TY 2019 Incremental Costs – CSE

Supplemental CSE Cost Breakdown 2019				
Program	**Labor**	**Non-Labor**	**Request**	**Total**
Customer Marketing and Communications	$130		1 Full Time Equivalent (FTE): Market Advisor	$276
	$100		1 FTE: Communications Advisor	
		$46	Customer communication and outreach focused on DACs and climate change imperatives. Printing and delivery of newsletters (1x/yr), deployment of emails (1x/yr) and driving to the website (1x/yr).	
Creative Services	$130		1 FTE: Project Manager	$230
	$100		1 FTE: Production Advisor	
Customer Insights and Analytics	$90		1 FTE: Data Analyst	$246
		$110	1 communications campaign analysis	
		$46	1 Spanish communications campaign analysis	

Digital Engagement	$90		1 FTE: Program Specialist	$406
		$60	2 video productions	
		$168	Aclara Annual CE/EP Software Fees	
		$88	Annual Bill Tracker SMS Fees	
FOF Costs	$29		FTE 0.3 increase due to FOF ideas	($199)
FOF Benefits		($228)	NL FOF benefit savings for FOF ideas	
Aliso Adjustment	$62		Adjustment to reinstate costs associated to FTE resources who have resumed their routine responsibilities after the temporary deployment to the Aliso Canyon incident. Amount was prorated to reflect the 5-year average methodology.	$62
Incremental costs	**$731**	**$290**	**TOTAL**	**$1,021**

Customer Marketing and Communications

The Customer Marketing and Communications team is requesting additional resources to develop and implement strategies in support of climate change policy, enhance awareness of natural gas safety and reliability, and increase communications to disadvantaged communities.

The numerous climate change policies adopted since the last GRC significantly impact our natural gas customers and require us to have proactive and dedicated communications to provide relevant and transparent information to interested parties. The incremental funding will allow SoCalGas to take a more proactive approach to inform customers about the role of renewable gas in meeting the state's goals to combat climate change, communicate the benefits of clean transportation in providing environmental benefits to customers especially in DACs, and educate customers on how SoCalGas is addressing its GHG emissions and SLCPs.

Additionally, the increase will provide funding to help expand communications and engagement of DACs. DAC customers will need to receive comprehensive information on all benefits, program offerings, and climate change impacts. To manage the DAC update of the numerous forms of communication, including website, collateral materials, and outreach and education content, SoCalGas will require additional resources.

To help manage the increased communications and DAC-specific messaging, I am requesting the following:

- 1 FTE: Market Advisor responsible for coordinating all DAC-specific messaging updates.
- 1 FTE: Communications Advisor responsible for managing the increase in communications regarding the role of natural gas in relation to the state's climate change policies.
- Non-labor costs to develop newsletter campaigns to increase public awareness on the role of natural gas in relation to the state's climate change policies, and targeted communications to DACs.

Creative Services

Creative Services supports the Customer Marketing and Communications team, and as communications campaigns are enhanced, the production of materials managed by the Creative Services team will increase. Production of materials includes preparing the initial concept graphic design with photography and narrative content, and developing the final PDF format design before communicating to customers. Proactive communications through various channels, such as web updates, collateral mailings, email, videos and other channels, are necessary to fulfill our commitment of ongoing, transparent communications to customers about climate change policies and the safety of the natural gas system. Customers are increasingly demanding information through multiple channels and responses to their questions in a timely manner. To help manage the increased work, I am requesting the following resources:

- 1 FTE: Project Manager responsible for developing customer communications materials, including brochures, letters, fliers, graphical illustrations and customer notification door hangers, to address climate change policies.
- 1 FTE: Production Advisor responsible for coordinating and managing the schedule of customer communications materials.

Customer Insights and Analytics

To help target communications and develop new customer service options to specific customer groups like those in DACs, Customer Insights and Analytics is constantly enhancing and expanding customer research and data analytics efforts to measure, evaluate, and anticipate service needs, safety concerns and conservation options. In addition, the rise in the amount of data collection and analysis from the availability of big data and the growth of digital technology

in recent years[22] has led to new opportunities for companies to analyze and leverage the collected data to benefit the customers they serve. Utilities have captured large amounts of customer and demographic information and are now in the position to leverage this information by investing in data platforms and analysis. This investment in the capabilities of Customer Insights and Analytics will allow SoCalGas to deliver compelling, timely, and actionable insights that benefit our customers, including those in DACs. The following increase in resources will be required:

- 1 FTE: Data Analyst responsible for proactively leveraging SoCalGas' customer data, including SoCalGas' Integrated Customer Data Analytics (ICDA),[23] by performing advanced analytics and predictive data modeling to provide greater granularity on how best to address customer needs.
- Communications Campaign Analyses to track the effectiveness of ongoing communications in DACs allowing us to measure customer knowledge and awareness across different key demographic and socio-economic segments.
- Spanish Communication Campaign Analyses to conduct more Spanish language research to allow SoCalGas to gain a better understanding of customer knowledge and awareness to customize and identify preferred communications, enhance customer education, and increase program participation in DACs.

Digital Engagement

As social media channels continue to grow, SoCalGas' social media communications and channel platforms will need to grow as well. From 2015 to 2016, SoCalGas' social media visits grew as follows in response to customer needs: Facebook grew by 14%, Twitter grew by 22% and Instagram grew by 164%.[24] The number of social media channels continues to increase together with customer expectations. Similarly, the population that has grown up as digital natives is maturing and becoming new renters and homeowners. Communication through these channels will need to address important business functions (*i.e.*, safety questions like potential

[22] http://www.idc.com/getdoc.jsp?containerId=prUS42371417 "International Data Corporation (IDC), big data and business analytics revenues will reach $150.8 billion in 2017 worldwide, an increase of 12.4% over 2016."

[23] Integrated Customer Data Analytics (ICDA) is a strategic initiative intended to provide easier access to customer data and analytical tools to allow SoCalGas to make operational, tactical and strategic decisions more efficiently by making data accessible to the right SoCalGas employees at the right time in a format that is understandable and useable.

[24] Appendix A – Social Media Growth.

home gas leaks or earthquake preparedness). Social media posts/needs have become more sophisticated and include live video, produced video, photography, copy, among others. The pressures and need for real-time engagement, response and messaging continue. The rapid growth of social media as a desired customer communication channel, the ability to leverage social media to help customers remain safe on a day to day basis and in the event of a disaster, supporting the additional social media tools, and the need to help customers through the channel in which they choose to communicate with SoCalGas requires additional resources.

Customers receive and retain information in a variety of ways. SoCalGas' digital platforms have traditionally used text as the primary communication method with text descriptions and frequently asked questions. Video-based education tools help customers that are visual or audio learners to better understand how to achieve their desired objective. Video offers a much richer communication method with customers, allowing the information to be communicated both more quickly and more completely. Customers are also comfortable with video as a communication method as it is used in many parts of their lives today. According to HubSpot, "1/3 of all online activity is spent watching video".[25] In 2016, YouTube videos produced by SoCalGas were viewed 181,079 times and YouTube followers grew by 78%.[26] Adapting to customers' communication preferences is the driver behind the need for the ongoing integration of video content into the digital platforms. Similarly, instead of the conventional frequently asked questions and text-based descriptions, some customers would be better served with video based solutions. Integration of video into the mobile-based solution will efficiently address customer needs and safety concerns. Video communications will be increased to include topics used to respond to DACs and climate change policy questions, and will supplement existing communications efforts.

To manage and expand SoCalGas' social media offerings, the Digital Engagement team will require the following additional resources:

- 1 FTE: Program Specialist responsible for administering the increased social media communications.
- Increased Video Productions to target DACs and climate change content.

[25] "16 Video Marketing Statistics to Inform Your Q4 Strategy", Hubspot: Marketing, *available at*: https://blog.hubspot.com/marketing/video-marketing--statistics#sm.00132ldbw162uegdyra1fz4vdmfkj.

[26] Appendix A, hereto.

Advanced Meter

As the Advanced Meter project winds to an end, the advanced meter systems require ongoing maintenance and support. The annual Aclara software fees has been incorporated as an incremental cost.

- Aclara annual CE/EP software licensing fees to support Ways to Save, our online tools that allow customers to view and manage their natural gas consumption.
- Bill tracker SMS fees to provide customers their bill tracker alerts through outbound SMS texts, which help customers track their ongoing natural gas usage, through comparisons of their usage to their prior month/year and projections of their monthly bill.

Fueling Our Future

As described in the FOF Policy Testimony of Mr. Snyder and Mr. Clark (Ex. SCG-03/SDG&E-03), SoCalGas initiated the FOF initiative in May 2016, to identify and implement efficient operational improvements. SoCalGas remains committed to consistently innovating, improving and modernizing processes to meet the future needs of our business. A total of $199,000 in cost savings has been reflected in the incremental amount requested for the CSE teams. These cost savings are associated with FOF, and are anticipated to increase contracting and designing efficiencies by in-sourcing the front-end design of socalgas.com and by re-bidding service contracts more frequently to provide more opportunities for negotiation and reduction in rates. The resources related to FOF are:

- FOF Costs – 0.3 FTE increase due to insourcing of several 3rd party contracts.
- FOF Benefits – Non-labor reduction from insourcing several 3rd party contracts.

Aliso Adjustments

As a result of removing historical costs related to the Aliso Incident from CSE adjusted recorded data, additional costs of the Aliso Incident response are not included as a component of my TY 2019 funding request. An adjustment of $0.062 million for costs necessary to resume routine operations have been included in the incremental forecast.

B. Customer Assistance Programs - Workpaper 2IN002

Table AC-11 below summarizes SoCalGas' requested TY 2019 expenses for Customer Assistance Programs.

TABLE AC-11
TY 2019 Summary of Non-Shared Customer Assistance Costs

CS - INFORMATION (In 2016 $)			
A. CS-Information	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Customer Assistance	1,968	3,438	1,470
Total	**1,968**	**3,438**	**1,470**

1. Description of Costs and Underlying Activities

The Customer Assistance Programs area covers costs for the administration of assistance programs offered to residential customers with limited income and/or certain medical conditions.[27] As discussed in D.05-04-052, "[W]here a cost is one the utility would have to incur regardless of the presence of the low-income programs, it should be funded in base rates, rather than by the limited/earmarked PGC surcharge."[28] Pursuant to this decision, O&M activities described below are costs allocated for recovery in base rates.

Natural Gas Appliance Testing (NGAT)

Per the Low-Income Energy Efficiency (LIEE) proceeding decision, D.08-11-031, the ESAP offers weatherization services to low-income customers, and as part of the services offered under the ESAP, SoCalGas performs NGAT in homes that receive air infiltration measures such as weather-stripping, caulking, or window and door repair. For safety purposes, contractors are required to perform an inspection of all natural gas appliances in the home. The process involves an operational evaluation of each gas appliance as well as the measurement of carbon monoxide levels within the living space. The LIEE D.08-11-031, also ordered SoCalGas to charge NGAT to base rates rather than to the Public Purpose Program funds as a "basic utility service."[29] In

[27] https://www.socalgas.com/save-money-and-energy/assistance-programs/medical-baseline-allowance.

[28] D.05-04-052 at 52.

[29] D.08-11-031 at 231, OP 65.

addition, NGAT is one of the activities described in SoCalGas and SDG&E's November 30, 2016 RAMP Report.[30]

Medical Baseline

The Medical Baseline Allowance (MBL) Program is a CPUC-mandated program that provides natural gas service at a lower rate to households where a member has a medical condition that requires additional heating to sustain the individual's health. SoCalGas' MBL activities include outreach, enrollment and application processing, customer support, and participant recertification. At the end of 2016, SoCalGas MBL enrollment reached 90% of its annual goal of 15% enrollment as identified in SoCalGas' most recent Low Income Annual Report.[31] SoCalGas remains committed to reaching a 15% annual enrollment and seeks recovery of costs associated with the MBL program to continue its focus on providing program awareness to customers.

Gas Assistance Fund (GAF)

The GAF program provides bill payment assistance of up to $100 per year to income qualified SoCalGas customers experiencing financial hardship.[32] SoCalGas shareholders, employees, and customers contribute to the GAF program. In October and November of each year, SoCalGas solicits customers and employees for contributions to the GAF program, which are matched by SoCalGas shareholders, generally on a dollar-for-dollar basis, up to $250,000. In 2016, the GAF program disbursed over $420,000 and helped more than 4,500 customers to pay their gas bill. Customer Assistance promotes the program, and United Way of Greater Los Angeles (UWGLA) is the program administrator; working with more than 70 community-based organizations to qualify customers and complete the intake applications.

2. Forecast Method

The forecast method used for this cost category is a five-year average with adjustments for activities related to NGAT and FOF. With respect to how I estimated costs, a five-year average methodology was adopted to form a "baseline" forecast. This forecasting methodology is most appropriate for this area because it reduces variances by leveling costs attributable to

[30] SoCalGas Risk Assessment Mitigation Phase – Risk Mitigation Plan, Chapter SCG-2 (Nov. 30, 2016).

[31] SoCalGas' 2016 CARE and ESAP Annual Report.

[32] "Gas Assistance Fund", SoCalGas, *available at*: https//www.socalgas.com/save-money-and-energy/assistance-programs/gas-assistance-fund.

NGAT activities that are directly correlated to the annual treated homes goal of the ESAP. The annual treated home goal is decided in the LIEE proceeding, which occurs separately from the GRC schedule. The 5-year average baseline forecast was further adjusted, where needed, to account for FOF savings.

3. Cost Drivers

Customer Assistance Programs recorded total adjusted expenditures of $1.967 million in 2016, of which $0.161 million were labor costs and $1.806 million were non-labor costs. For TY 2019, I am requesting a total of $3.438 million for Customer Assistance non-shared services. This forecast is based on a net incremental funding request of $0.807 million above the 5-year average to support the increase in NGAT costs. This increase is based on the increase in annual treated homes goal for 2019, the recent ESAP rule changes adopted in D.16-11-022, and a fee adjustment to account for inflation.

Over the past five years, SoCalGas has treated approximately 89,000 ESAP units per year, of which approximately 81% have required NGAT services. Per D.16-11-022, the TY 2019 treated home goal for SoCalGas has now increased to 121,275, which represents a 26% increase over the previous 5-year average.[33] Additionally, the number of homes requiring NGAT services is likely to rise beyond the five-year average activity levels, due to numerous program rule changes adopted in D.16-11-022. The most significant changes include the elimination of the ten-year-go-back rule, elimination of the three-measure minimum, authorization to offer common-area measures in multifamily buildings, and an expansion in the Willing and Feasible to Participate (WFTP) market.[34] By changing these program rules, the number of eligible customers that are Willing to Participate (WTP) will likely increase.[35] As such, SoCalGas anticipates that the number of homes that will require NGAT services will increase from 81% to 85%.

While the current NGAT unit cost is $28.50, because SoCalGas routinely (annually, or more frequently when necessary) evaluates the rates it pays for each ESAP service, my forecast accounts for an increased NGAT per unit cost of $32.10. This increase is calculated based on

[33] CS-I 2IN002 Supplemental Workpaper – NGAT Costs.

[34] D.16-11-022 at 446 and 457, OPs 9, 10, 43.

[35] D.16-11-022 at 267.

annual inflation through the Consumer Price Index. Therefore, for TY 2019, SoCalGas forecasts the annual NGAT cost for 103,084 homes at $32.10 per unit, which will require an incremental $1.237 million above the five-year average

TABLE AC–12
TY 2019 NGAT Forecast Cost Breakdown

	2019	Expected NGAT (85% of treated homes)	Total Forecasted NGAT Costs (In 2016 $, 000s)	Historical 5-year average cost (In 2016 $, 000s)	Required Increase (In 2016 $, 000s)
Treated Homes Goal	121,275	103,084	$ 3,309	$ 2,072	$ 1,237
FOF Group 101 Cost Savings					$ (430)
Net Increase					$ 807

FOF Adjustments.

As described in the joint testimony of Mr. Snyder and Mr. Clark (Ex. SCG-03/SDG&E-03), SoCalGas kicked off the FOF initiative in May 2016, to identify and implement more efficient operational improvements. SoCalGas remains committed to consistently innovate, improve and modernize processes to meet the future needs of our business. As such, a total of $0.430 million in cost savings has been included in the NGAT forecast as shown in Table AC-12. The cost savings are associated with the Supply Management FOF initiative,[36] which aims at increasing efficiencies in contracting and procurement activities.

In summary, the Customer Assistance Programs area is requesting an increase of $0.807 million above the five-year average. The increase is based on the 26% increase in annual treated homes goal for TY 2019, the increase in the number of homes requiring NGAT services, an increase in the NGAT per unit cost, and an FOF benefit adjustment.

C. Customer Segment Services - Workpaper 2IN003

Table AC-13 below summarizes SoCalGas' requested TY 2019 expenses for Customer Segments Services.

[36] *See* Testimony of Denita Willoughby (Ex. SCG-22/SDG&E-20).

TABLE AC-13
Summary of Non-Shared Customer Segment Services

CS - INFORMATION (In 2016 $)			
A. CS-Information	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Segment Services	8,371	10,018	1,647
Total	**8,371**	**10,018**	**1,647**

1. Description of Costs and Underlying Activities

This section summarizes activities and costs incurred by the organizations that together provide Customer Segment Services. As described more fully below, the primary goal of this group is to strategically manage customer segments to ensure relevant information, services, products, programs, and other offerings are provided to help meet and manage customers' energy needs.

The major activities of Customer Segment Services consist of providing individualized account management of customer segments as described in Table AC-14; focusing customer services on segments such as the small and medium business (SMB) customers, home builders, developers, and residential customers; advising in areas that pertain to regulatory, tariffs, contracts, air quality, legislation, market and forecast analysis; and presenting customer programs, education and training to the various customer segments listed below in Table AC-14.

TABLE AC-14
Customer Segments - Account Management Matrix

	Customer		Description
Segment Services	Commercial & Industrial	Energy Markets	Large electric generators, wholesale, international, and enhanced oil recovery and California gas and biogas supplier interconnections.
		Select Industry	Noncore or noncore eligible (>250,000 therm/year consumption) manufacturers, large hospitals, petroleum refineries, Federal, State and Los Angeles City and County accounts.
		Geographically Assigned	Hotels, restaurant chains, small hospitals, school districts, small manufacturers, grocery chains, restaurant chain accounts, colleges, >50,000 therm/year accounts.

	Mass Markets	Small, Medium, Business	Medium (> 10,000 therm/year, and < 50,000 therm/year consumption) commercial & industrial customers, small (<10,000 therm/year consumption) commercial & industrial customers.
		Residential	Single family, multi-family, and master meter residential accounts, and residential home builders.

Commercial & Industrial Account Management

To effectively serve and meet the needs of the Energy Markets, the Commercial & Industrial Markets and the accounts that are greater than 50,000 therms/year, SoCalGas delivers individualized account management services through highly trained and specialized Account Representatives (ARs). ARs are assigned to segments of select industries (large manufacturers, large hospitals, petroleum refineries) and geographical segments of commercial and industrial customers (hotels, restaurant chains, small hospitals, small manufacturers, etc.). Customer interactions with ARs are critical to communicating with customers regarding safe and reliable service delivery, regulatory compliance as well as increasing customer satisfaction.

ARs must maintain industry specific expertise, provide frequent contact with their customer base, provide technical and policy support by advising on current air quality regulations and compliance, and manage new business and meter requests. ARs are also responsible for informing customers on their eligible tariff options, explaining the complexities of rate contracts and tariffs (such as curtailment priorities and calculating authorized curtailment quantities), and assisting eligible customers with navigating the complexities of the Backbone Transmission Service bidding process. To meet these duties, ARs rely on knowledgeable support from their staff and others in the organization to maintain current, up-to-date, and consistent information to provide to customers.

Mass Markets

The support services strategy for the mass markets and SMB customers is to initiate awareness, increase tools and campaigns, establish primary services, and establish continuous improvement to support this segment effectively. The strategy includes outreach to effectively communicate programs, services, rate education, air quality regulations and mandated messages to the SMB segment. The unique needs of these customer segments require a different outreach approach than the approach used with Energy Markets and Commercial & Industrial customers.

Additionally, the SMB customers look to SoCalGas to provide them with information regarding energy issues that will directly impact their business, to keep them apprised of all regulatory and rate changes, to share tips on how to save money on their energy bill, and to provide safety-related messages.

The primary objective of the Residential Services group is to more effectively develop, deliver and manage services for our 5.4 million residential customers and for the residential builders in our region. The two key functions that comprise Residential Services are: Residential Market Services and Clean Energy Builder.

The Residential Market Services function is to provide support to residential builders and developers as well as individual residential customer expectations. The group is responsible for identifying residential customer needs; developing new services or refining existing services to meet those needs; coordinating with SoCalGas operational groups to deliver services related to the safe and efficient use of natural gas; and monitoring the services to ensure effectiveness in meeting customer needs.

The Clean Energy Builder function helps identify consumer fuel and appliance needs and priorities; defining gaps between consumer and environmental priorities, builder/developer/ contractor practices, and products provided by the manufacturing community; and coordinating SoCalGas operational and policy groups to deliver information and services to support the building community in meeting environmental goals and consumer needs.

Staff Support

Staff Support provides analysis, customer needs assessments, market and competitive assessments, and consistent, accurate customer communication materials and facilitates safe and consistent service to customers in accordance with CPUC tariff rules and regulations. The general responsibilities of Staff Support are the following:

- Contracts: Competitive assessments for customers and prospective customers requesting special contracts to compete with alternative pipeline service or alternate fuels. They develop negotiating guidelines and contract terms and conditions, gain management approval for negotiated contracts, develop testimony and supporting documentation to gain CPUC approval of the negotiated contracts, and develop and implement internal procedures and controls for contract management and regulatory compliance.

- Rate analysis: Provide expert rate analysis to help ARs work with their customers to select the utility rates and services that best suit their facility

needs. Staff Support maintains a bill estimator tool allowing ARs to educate customers about their rate options and the costs associated with each service. Staff Support also works with Gas Engineering, Accounting, and ARs to implement tariff line extension allowances,[37] and works with ARs, Measurement, Regulation and Control, and the Engineering Analysis Center to resolve customer and gas producer questions regarding gas measurement and gas quality.

- Financial and information controls and tariff compliance: Staff Support develops and manages procedures and tools to ensure that all activities undertaken to support customers comply with all applicable CPUC decisions, resolutions, tariff rates and rules as well as other financial and regulatory rules such as GHG compliance programs like Cap-and-Trade, Sarbanes-Oxley Act, Affiliate Transaction rules, records retention policy, and audit procedures.

- Regulatory filings, data responses, and segment demand forecasting: Staff Support must stay abreast of impending regulation and tariff changes and provide the education and training material to support the rollout of new programs. Regulatory compliance and support includes technical contributions to major proceedings, advice letters, compliance filings, data requests, customer segments demand forecasts, and the preparation and submission of reports to regulatory agencies.

Collectively, the Customer Segment Services teams are responsible for providing information to customers and agencies about safety, mandated messages, regulatory updates, information on rates, rate options, air quality regulations and service offerings.

2. Forecast Method

The forecast method used for this cost category is a five-year average with adjustments for growth related to expanded support functions, and FOF costs and savings. This method is most appropriate because it incorporates a consistent and full outlook of costs incurred for business functions and responsibilities that have remained stable during the past five years, and reduces common anomalies in the basis of the forecast, such as periodic expenses (*i.e.*, implementations resulting from mandates) or fluctuations in the business cycle. A net incremental amount of $0.499 million is requested above the five-year average of $9.519 million. This net increase is needed to offset incremental functions above the current core functions that

[37] *See* Rule No. 20 ("Gas Main Extensions"), SoCalGas, *available at*: https://socalgas.com/regulatory/tariffs/tm2/pdf/20.pdf. *See also* Rule No. 21 ("Gas Service Extensions"), SoCalGas, *available at*: https://socalgas.com/regulatory/tariffs/tm2/pdf/21.pdf.

are embedded in the five-year average. More specifically, the net increase is related to new functions associated with climate change policies and gas safety.

3. Cost Drivers

Customer Segment Services recorded total adjusted expenditures of $8.371 million in BY 2016, of which $7.086 million were labor costs and $1.285 million were non-labor costs. As the energy environment continues to change, the Customer Segment Services organization will need to adjust its customer offerings in compliance with climate change policy. To support this, I am requesting $0.499 million above the five-year average to provide resources to address the climate change policies that may impact all customer segments. As previously discussed, a five-year average forecast methodology was used as the basis for the TY 2019 forecast plus adjustments to account for specific functional changes and growth. The cost drivers behind this forecast are:

- Climate change policies – Supporting the State's ambitious climate change policy directly impacts all customer segments. Natural gas customers need guidance and support to help align their energy needs with the current environmental policies;
- Renewable gas initiative – Providing customer support services to existing and expanding renewable gas projects resulting from SB 840 (Stats. of 2016), AB 2313 (Stats. of 2016), and California's initiatives to reduce GHG to 1990 levels by 2020 and 40% below 1990 levels by 2030;[38] Zero Net Energy (ZNE) - Increasing market assessment to help identify natural gas ZNE and DAC offerings; and
- Fueling our Future – Pursuing cost reductions by increasing efficiencies of ARs through work consolidation.

The incremental funding will help fund the resources described in Table AC-15 below.

TABLE AC-15
TY 2019 NSS Incremental Cost – Customer Segment Services

Supplemental Customer Segment Services Cost Breakdown 2019 (in 2016 $, 000s)				
Staff Support	$115		1 FTE: Market Advisor	$130
		$15	Travel expenses	
	$105		1 FTE: Project Manager	$155
	$50		0.5 FTE: Project Specialist	

[38] D.15-06-029 at 46, OP 3.

		$362	Replacement of antiquated internal communication system (iAvenue). Cost amortized over 3 years.*	$362
ZNE Markets	$95		1 FTE: Advisor	$175
	$45		0.5 FTE: Analyst	
		$35	Residential Market Analysis	
FOF	($401)		FTE 4.3 labor cost reduction (benefit) due to FOF	($408)
		($7)	Non-labor cost reduction (benefit) due to FOF	
Aliso Adjustment	$85		FTE 0.3 Adjustment to reinstate costs associated to FTE resources who have resumed their routine responsibilities after the temporary deployment to the Aliso Canyon incident. Amount was prorated to reflect the 5-year average methodology.	$85
Incremental Request	**$94**	**$405**	**TOTAL**	**$499**

*Note: If the four year GRC cycle is adopted, as proposed in the testimony of Jawaad Malik (Ex. SCG-44), then this calculation will need to be revised to reflect that.

Staff Support

The State's ambitious energy policy has impacted many of our large, commercial and industrial, mass markets and residential builder segments. Customers wishing to develop clean natural gas Distributed Energy Resource (DER) type projects are faced with challenges because of the many policy changes at local, state and federal levels. As such, our customers need guidance and support to help align their energy needs with the current environmental policies. To date the impacts of the policy changes have been managed on a limited basis by CS-I business areas through proceedings such as the Self-Generation Incentive Program, California Solar-Initiative, Customer Incentive Program, Pipeline Safety Enhancement Plan (PSEP), Pipeline Integrity (PI) (maintenance curtailments), Rule 23 (curtailment rule change), and others. However, the number of proceedings that have the potential to impact all customer segments continue to grow. To help consolidate the many policy changes, I am requesting the following:

- 1 FTE: DER Market Advisor responsible for providing market analysis to Customer Segment Services teams to help develop educational material, customer analysis, and other offerings to support climate change policies.
- On-going O&M costs for replacement of the antiquated customer contact system (iAvenue). The replacement system will help streamline customer communication management.

In accordance with D.16-12-043, which modified D.15-06-029, and the mandates of SB 840 and AB 2313, SoCalGas is required to offer a five-year monetary incentive program to encourage biomethane producers to design, construct, and operate biomethane projects that interconnect with the gas utilities' pipeline systems and facilitate the pipeline injection of biomethane that can be safely used at an end user's home or business. The appropriately skilled resources are necessary to help develop adequate renewable gas resources and will aid internal personnel, end-use customers, and renewable gas/clean transportation developers. To do this, I am requesting funding for the following:

- 1 FTE: Project Manager responsible for managing feasibility studies, contract development, work order agreements, engineering plans, and coordinating with Gas Engineering and Renewable Gas Customer Outreach on project development activities for the interconnection point for bio-methane producers.
- 0.5 FTE: Project Specialist responsible for providing administrative support to the Project Manager and coordinating promotion and demonstration of bio-methane facilities.

Zero Net Energy (ZNE) Markets

As part of California's energy efficiency and climate change policies, residential new construction must be ZNE by 2020.[39] In support of the ZNE goal to include natural gas in the energy use intensity calculations for buildings,[40] additional funding is necessary to help commercialize new and innovative natural gas technologies for the general market, and educate the residential and commercial new construction and retrofit markets about the impact of these technologies. The primary objectives of this team will be to assess the functionality of the technology in actual customer applications, as well as the cost effectiveness and greenhouse gas reduction benefits of the technology in an occupied ZNE environment. Additionally, this team expects to use the market assessment to help expand natural gas ZNE balanced energy solutions and to promote opportunities to meet ZNE goals, minimizing impacts to the grid, and identifying potential barriers to community-scale ZNE. The resources necessary to meet these priorities are:

- 1 FTE: Advisor responsible for managing natural gas customer evaluation and assessment of ZNE measures.

[39] "New Residential Zero Net Energy Action Plan 2015-2020" at 1, CEC and CPUC, *available at*: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=10717 (June 2015).

[40] *Id.* at 14.

- 0.5 FTE: Analyst responsible for quantifying the natural gas impacts to customers in the ZNE environment.
- 1 Residential Market Assessment Report to enable SoCalGas to better inform customers on the application of ZNE measures to natural gas.

Fueling our Future

As described in the joint testimony of Mr. Snyder and Mr. Clark (Ex. SCG-03/SDG&E-03), the utilities initiated the FOF initiative in May 2016, to identify and implement efficient operations improvements. In conformance with this initiative, a cost reduction of $0.408 million in TY 2019 is possible by consolidating positions into administrative functions and optimizing work capacity of ARs by reducing travel time.

Aliso Adjustments

As a result of removing historical costs related to the Aliso Incident from Customer Segment Services adjusted recorded data, additional costs of the Aliso Incident response are not included as a component of my TY 2019 funding request. An adjustment of $0.085 million for costs necessary to resume routine operations have been included in the incremental forecast.

IV. SHARED COSTS

Table AC-16 summarizes the total shared O&M forecasts for the listed cost categories.

TABLE AC-16
Shared O&M Summary of Costs

CS - INFORMATION (In 2016 $)			
(In 2016 $) Incurred Costs (100% Level)			
Categories of Management	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
A. CS-Information	2,303	4,490	2,187
Total Shared Services (Incurred)	**2,303**	**4,490**	**2,187**

This section presents SoCalGas' estimated TY 2019 expenses for shared services that are required for both SoCalGas and SDG&E. I am sponsoring the forecasts on a total incurred basis, as well as the shared services allocation percentages related to those labor and non-labor costs. Those percentages are presented in the shared services section of my workpapers (Ex. SCG-20-WP), along with a description explaining the activities being allocated. The dollar amounts

allocated to affiliates are presented in our Shared Services Policy testimony sponsored by James Vanderhye (Ex. SCG-34).

A. Clean Transportation Services

Table AC-17 below summarizes SoCalGas' requested TY 2019 expenses for Clean Transportation Services.

TABLE AC-17
Shared O&M Summary of Costs within Clean Transportation Services (In 2016 $)

Incurred Costs (100% Level)			
A. CS-Information	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Clean Transportation Customer Support (2200-0234)	833	2,178	1,345
2. Clean Transportation Customer Outreach (2200-2560)	1,047	1,358	311
Incurred Costs Total	**1,880**	**3,536**	**1,656**

1. Description of Costs and Underlying Activities

This section summarizes the activities and costs incurred by the two teams, Clean Transportation Customer Support and Clean Transportation Customer Outreach, that together provide Clean Transportation Services to SoCalGas and SDG&E customers. As described more fully below, the primary goal of the shared service Clean Transportation Services organization is to support customer demand for and market adoption of natural gas as a transportation fuel in support of California's GHG reduction goals as set forth in key legislation such as SB 32, SB 350, SB 1383 and related regulations. Clean Transportation Services provide operators of natural gas vehicles (NGVs) and NGV refueling stations, vehicle and equipment manufacturers, government agencies, policymakers, and other stakeholders with account management services, information, education and training related to natural gas clean transportation throughout the service territories of both SoCalGas and SDG&E.

In 2016, SoCalGas and SDG&E served 356 NGV refueling stations dispensing 156 million therms of compressed natural gas or over 124 million gasoline gallon equivalents to NGV customers. Most of these customers own and operate both NGVs and NGV refueling stations, but some customers operate "public access" fueling stations to serve the general public and nearby fleets. NGV customers vary significantly in terms of the number and type of NGVs operated, including commuter vehicles, transit buses, school buses, waste haulers, street sweepers, airport fleets (taxis, shuttles), goods movement trucking, and port drayage trucking.

Clean Transportation Services recorded total adjusted expenditures of $1.88 million in 2016, of which $1.16 million were labor costs and $0.720 million were non-labor costs. To meet the demand for NGV services, the Clean Transportation shared-services are covered by the two cost centers described below.

- Clean Transportation Customer Support (2200-0234) covers costs related to the development and management of new and existing NGV-related products and services. Products and services include activities such as new business administration, customer outreach tools and materials, public access compressed natural gas (CNG) station management, and subject matter expertise to implement clean transportation mandates. These offerings are then handed off to the Clean Transportation Customer Outreach team for use with customers.

- Clean Transportation Customer Outreach (2200-2560) covers costs related to direct customer contact activities such as providing customer information, education and training.

2. Forecast Methodology

The forecast methodology applied to each Clean Transportation cost center is based on the historical costs associated to each cost center.

Clean Transportation Customer Support (2200-0234)

For Clean Transportation Customer Support, a five-year average is most appropriate since the availability of historical data provides a consistent platform to build upon and best represents the needed resources to maintain the historic operational activities. The incremental labor adjustments are necessary for customer administrative support of programs to develop new and existing NGV-related products and services.

Clean Transportation Customer Outreach (2200-2560)

For Clean Transportation Customer Outreach, a base-year forecast is most appropriate because it provides a platform to build upon and best represents a full year of needed resources

and operational costs. The increase will dedicate additional resources to respond to customer requests for NGV and refueling station information, education and training related to clean transportation regulations and utility service, and NGV infrastructure, safety, and products (*i.e.*, light-duty vehicles, heavy-duty vehicles, and refueling station equipment).

3. Cost Drivers

For TY 2019, SoCalGas is requesting total incurred costs of $3.536 million reflecting an incremental increase of $1.656 million to support an expected increase in customers seeking clean transportation services. Key changes and cost drivers for the increase in Clean Transportation customers include the following:

- Demand from a continuing increase in the number of customers that operate NGVs and/or NGV refueling stations requiring additional customer information, education and training;
- Market activity from increasing numbers of and changes to the wide range of third-party products and services offered to customers that operate NGVs and/or NGV refueling stations; and
- Regulatory and legislative activity from new and updated government legislation, regulations and programs impacting individual and fleet customers that operate or may benefit from operating NGVs and/or NGV refueling stations.

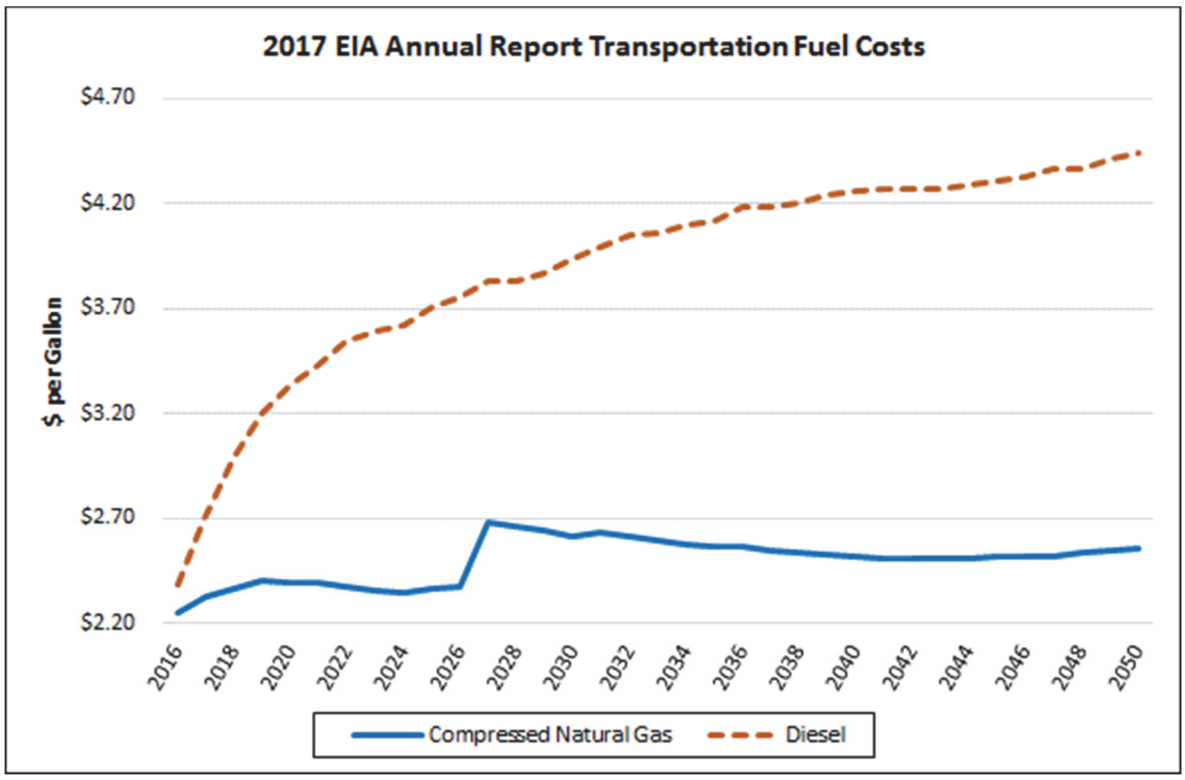
Clean Transportation Demand

The primary cost driver for an increase in Clean Transportation Services is based on the expected increase in the demand for NGV offerings as indicated by recent NGV market trends. It is expected that this level of growth will continue due to: a) increasing customer interest in CNG as a vehicle fuel, and b) the steadily increasing price advantage of CNG compared to diesel fuel (Figure AC-2). From 2012 through 2016, natural gas vehicle growth, driven by heavy-duty trucks, refuse haulers and buses, has been dramatic as evidenced by the nearly 17% increase in the number of CNG vehicle refueling stations served and the 27% increase in the amount of fuel consumed by natural gas vehicles. In addition, from 2012 to 2016, the number of customers submitting "Preliminary Site Evaluation Forms" (to determine how a specific, proposed location might be served with gas service for a CNG station), has increased by almost 74%.

In addition, the price spread between diesel fuel and CNG is a key driver associated with customer adoption of CNG. A positive price spread drives customers to adopt natural gas whereas a negative price spread would drive customers to continue using diesel fuel. By 2019,

the Federal Energy Information Administration forecasts a "reference" price spread of $0.54 cents per gallon that will increase over time to as much as $1.61 per gallon (*see* Figure AC-2 below).

FIGURE AC-2
2017 EIA Annual Report Transportation Fuel Costs[41]



Clean Transportation Market Activity

From 2012 through 2016, there has been significant market activity related to new natural gas products and services including natural gas engines and renewable gas. Natural gas engine manufacturers have been working on increasing the size of natural gas engines with the eventual goal of manufacturing engines that can power heavy-duty trucks. In 2015, CARB certified Cummins-Westport's (CWI) new CNG engine, the CWI ISL-G NZ, to reduce NOx emissions by at least 90% below diesel vehicle baselines. This is the first engine to meet the new CARB

[41] Appendix B, hereto ("Preliminary Site Evaluation Data").

optional low NOx standard.[42] On October 13, 2016, the CWI ISL-G NZ began production and was made available to customers in North America.[43] In 2018, CWI plans to release three new "near zero" natural gas engines in larger and smaller engine families designed to serve regional haul, vocational, transit, bus, and refuse applications - the CWI B6.7N, L9N, and ISX12N engines.[44]

An additional market development is the solidification of CARB's Low Carbon Fuel Standard (LCFS) program, which mandates a 10% reduction in the carbon intensity of transportation fuels used in California by 2020. Natural gas, when used as a motor vehicle fuel, has a carbon intensity that is almost 13% less than diesel fuel, and renewable natural gas has an even lower carbon intensity that places it at over 90% lower in carbon intensity compared with gasoline.[45] Based on LCFS data, almost 62% of natural gas fuel reported to CARB through the LCFS Program at the end of 2016 was renewable gas.[46] An example of how the use of renewable gas in transportation applications is growing can be seen with Clean Energy.[47] In 2013, Clean Energy began offering renewable gas through its Redeem program[48] at CNG

[42] "ISO G Near Zero Natural Gas Engine Certified to Near Zero – First MidRange engine in North America to reduce NOx emissions by 90% from EPA 2010", Cummins Westport, *available at*: http://www.cumminswestport.com/press-releases/2015/isl-g-near-zero-natural-gas-engine-certified-to-near-zero (Oct. 5, 2015).

[43] "Cummins Westport Begins Production of ISL G near Zero Natural Gas Engine – North America's First Commercially Available Near Zero NOx MidRange Engine", Cummins Westport, *available at*: http://www.cumminswestport.com/press-releases/2016/cummins-westport-begins-production-of-isl-g-near-zero-natural-gas-engine (Oct. 13, 2016).

[44] "Cummins Westport Introduced 2018 Natural Gas Engines, Heavy Duty Trucking, *available at*: http://www.truckinginfo.com/channel/fuel-smarts/news/story/2017/05/cummins-westport-introduces-2018-natural-gas-engines.aspx (May 1, 2017).

[45] *See* https://www.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm?_ga=2.197424551.929727393.1506614704-471370962.1489513137 - ARB Carbon Intensity Lookup Table for Gasoline and Fuels that Substitute for Gasoline.

[46] "Alternative Fuel Volumes and Credit Generation", CARB, *available at*: https://www.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm (Sept. 20, 2017).

[47] Clean Energy is a major provider of natural gas used as a transportation fuel and offers CNG, LNG, and RNG at stations located throughout the United States and abroad.

[48] "Redeem", Clean Energy, *available at*: http://redeem.cleanenergyfuels.com/.

stations in operation throughout California. By 2016, Clean Energy was dispensing 60 million gallons of renewable gas annually, and had signed a long-term supply contract with BP.[49]

In addition, renewable gas used for transportation significantly reduces greenhouse gas emissions beyond the benefits of traditional natural gas. The single largest contributor (over 37%) to state-wide GHG emissions is the transportation sector.[50] Heavy-duty natural gas trucks equipped with "near zero" engines and fueled by renewable natural gas can provide enhanced GHG emission reductions due to the closed crankcase technology[51] used in "near zero" natural gas engines. A May 2016 technical white paper authored by Gladstein, Neandross and Associates concluded, "only one fuel-technology pathway and strategy provides the ability to immediately begin broadly providing extremely low NOx and GHG emissions in high-impact [heavy-duty vehicle] HDV sectors: … commercially available near-zero-emission heavy duty NGVs using progressively higher blends of renewable natural gas."[52]

In addition, developing the RG market for clean transportation in California has the potential to create thousands of jobs. In 2017, a report published by ICF looked at the economic impacts of deploying low NOx trucks fueled by RG.[53] In the statewide scenario where 172,000 to 516,000 low NOx natural gas trucks are deployed, ICF estimates a total of 81,000 to 134,000 cumulative jobs added to California's economy from 2018 to 2030.[54]

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[49] "BP and Clean Energy Partner to Expand U.S. Renewable Natural Gas Transportation Fueling Capabilities; BP To Acquire Clean Energy's Upstream RNG Business and Sign Long-Term RNG Supply Agreement with Clean Energy", Clean Energy, *available at*: https://www.cleanenergyfuels.com/press-room/bp-clean-energy-partner-expand-u-s-renewable-natural-gas-transportation-fueling-capabilities-bp-acquire-clean-energys-upstream-rng-business-sign-long-term-rng-supply-agreeme/ (March 1, 2017).

[50] California Air Resources Board, "California Greenhouse Gas Inventory for 2000-2015," June 6, 2017 update.

[51] Closed crankcase technology refers to internal combustion engines with closed crankcase ventilation that recirculates any gases that leak past the piston rings and prevents ventilation to the atmosphere. This allows the engine to capture unintended emissions and allows such engines to reach "near zero" emission levels for NOX and to further reduce GHG emissions.

[52] Gladstein Neandross and Associates, Game Changer Technical Whitepaper – Next Generation Heavy Duty Natural Gas Engines Fueled by Renewable Natural Gas at 4 (May 3, 2016).

[53] "Economic Impacts of Deploying Low NOx Trucks fueled by Renewable Natural Gas", ICF, *available at*: http://www.rngcoalition.com/s/ICF_RNG-Jobs-Study_FINAL-with-infographic.pdf (May 2017).

[54] *Id.* at 4.

Clean Transportation Legislative and Regulatory Activity

The proliferation in climate change policies has directly impacted the transportation sector. From 2012 through 2016, there have been numerous federal, state, regional, and local government legislation, regulations and programs impacting individual and fleet customers that operate or benefit from operating NGVs and/or NGV refueling stations. In October 2016, the Environmental Protection Agency (EPA) and Department of Transportation's National Highway Traffic Safety Administration jointly finalized new standards for medium- and heavy-duty vehicles to improve fuel efficiency and reduce carbon pollution.[55]

At the state level, in May 2015, CARB issued a proposed Advanced Clean Transit regulation that would require the replacement of all urban transit buses in operation throughout California with new, advanced technologies. In May 2016, CARB issued its proposed Mobile Source Strategy, including specific actions and policies, to demonstrate "…how the State can simultaneously meet air quality standards, achieve greenhouse gas emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years…"[56] Finally, in April 2017, CARB highlighted how investments in clean transportation can contribute to economic opportunities for low-income residents and disadvantaged communities, "including expanding local job and workforce development, and encouraging policy development that minimizes the potential for physical or economic displacement of low-income residents…"[57] With these clean transportation initiatives, CARB is setting the stage for significant environmental and economic benefits in disadvantaged communities along the major transportation corridors that are disproportionately impacted by heavy-duty truck traffic.

[55] "Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2", U.S. Environmental Protection Agency, *available at*: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency (Aug. 2016).

[56] 2016 Mobile Source Strategy, CARB, *available at*: https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.htm (May 2016).

[57] "Low-Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents" at 14, CARB, *available at*: https://www.arb.ca.gov/msprog/transoptions/draft_sb350clean_transportation_access_guidance_document.pdf (April 12, 2017).

CARB has identified heavy-duty trucks over 8,500 pounds as "the fastest growing transportation sector in the United States."[58] CARB intends to "quickly deploy currently available near-zero emission technologies, including low-NOx engines powered with renewable fuels."[59] SoCalGas and SDG&E support CARB's goal to deploy near-zero emission technologies by informing and educating our customers' move towards those technologies through individualized account management services that assist customers in identifying, developing, and implementing NGV transportation solutions and process improvements. The need for customer information and education programs related to new products and services has been increasing and will continue to increase over time as the number of NGV customers continues to grow.

At the regional level, the two largest regional air basins within the SoCalGas service territory, South Coast and San Joaquin Valley, are in extreme non-attainment for ozone and both must achieve significant reductions in NO_X to attain ozone and particulate matter (PM) National Ambient Air Quality Standards under the Federal Clean Air Act.[60] More than 85% of the region's NO_X emissions come from mobile sources.[61] With heavy-duty diesel trucks as the single largest contributor to NO_X, the widespread deployment of near-zero emission heavy-duty trucks, including natural gas trucks, is the single most impactful emission reduction strategy.[62] In addition, NGVs can help meet one of the goals of AB 197 by reducing direct emissions from mobile sources.

At the local level, in February 2017, the Ports of Los Angeles and Long Beach received the Advanced Clean Trucks (ACT) Now Plan submitted by the Compressed Natural Gas Vehicle Coalition (CNGVC) to "…reduce emissions from all port-related sources: ships, trucks, trains,

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[58] 2016 Mobile Source Strategy at 84, CARB, *available at*: https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.htm (May 2016).

[59] *Id.* at 85.

[60] Final 2016 Air Quality Management Plan (AQMP) at ES-1-2 ("SCAQMD Final 2016 AQMP"), SCAQMD, *available at*: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15; *see also* 2016 Plan for the 2008 8-Hour Ozone Standard ("SJVAPCD 2016 Plan") at 1-6, SJVAPCD, *available at*: http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm (approved June 16, 2016).

[61] SCAQMD Final 2016 AQMP at ES-7; *see also* SJVAPCD 2016 Plan at ES-5.

[62] SCAQMD Final 2016 AQMP at 3-32; *see also* SJVAPCD 2016 Plan at ES-6.

cargo-handling and smaller harbor craft, such as tugboats…"[63] Specifically, the CNGVC ACT Now Plan envisions using zero emission and near-zero emission technologies, including natural gas, propane, battery electric, hydrogen and others capable of meeting the CARB optional low NO_X emissions standard and reducing GHG emissions by at least 40%.[64] The transition to NGVs for goods movement provides significant environmental benefits to our communities, especially disadvantaged communities located along transportation corridors.

Significant energy policy developments at the federal, state, regional, and local levels are likely to impact the transportation fleets of many of our largest commercial and industrial customers. The Clean Transportation Customer Support team will support our customers by helping them meet their energy needs and taking advantage of any clean transportation incentives.

These cost drivers impact each Clean Transportation team differently. As such, incremental requests are identified by cost center below:

Clean Transportation Customer Support (2200-0234)

To support the increased adoption of NGV products and services by SoCalGas' customers, I am requesting $0.501 million above the five year-average for Clean Transportation Customer Support to provide the necessary resources that would allow expansion of clean transportation services and products.

To help manage customers' clean transportation needs, I request the following personnel to augment existing resources:

- 1 FTE – Compliance and Reporting Market Advisor will be responsible for ensuring NGV services, products and offerings comply with federal, state and local transportation regulations and associated reporting requirements.
- 1 FTE – Product Market Advisor will be responsible for developing, managing, and modifying a portfolio of new NGV products and services offered to customers.

[63] "Ports of Los Angeles and Long Beach Unveil Bold Strategies to Reduce Greenhouse Gases and Clean the Air", Clean Air Action Plan, *available at*: http://www.cleanairactionplan.org/news/port-of-los-angeles-and-long-beach-unveil-bold-strategies-to-reduce-greenhouse-gases-and-clean-the-air/ (Nov. 18, 2016).

[64] "Advanced Clean Trucks (ACT) Now Plan" at 2, California Natural Gas Vehicle Coalition (Feb. 2017).

- 1 FTE – Regulatory and Policy Market Advisor will be responsible for monitoring and communicating local, state and federal regulations that impact NGV and NGV fueling station operators.
- 1 FTE – Fleet Analytics Market Analyst will be performing fleet-specific economic and environmental analyses to determine the impact of using NGVs in customer fleets.
- Non-labor increase will support customer support activities, product development/management, industry memberships, employee costs/training, software, and third party engineering analysis.

Table AC-18 describes the incremental resources for the Clean Transportation Customer Support group.

TABLE AC–18
Clean Transportation Customer Support Cost Breakdown

Clean Transportation Customer Support Cost Breakdown (2200-0234) 2019 (2016 $, 000s)				
Clean Transportation	**Labor**	**Non-Labor**	**Request**	**Total**
Customer Support 2200-0234	$103	n/a	1 FTE: Compliance and Reporting Market Advisor	$409
	$103		1 FTE: Product Market Advisor	
	$103		1 FTE: Regulatory and Policy Market Advisor	
	$100		1 FTE: Fleet Analytics Market Advisor	
		$92	Customer support activities, product development/ management, industry memberships, employee costs/training, software, and 3rd party engineering analysis	$92
Total	**$409**	**$92**		**$501**

Clean Transportation Customer Outreach Program

Clean Transportation Customer Outreach Programs helps customers understand the new clean transportation products and how to integrate them into their operations. To help provide the customer information, education, training, and evaluation, I am requesting $0.311 million above the base year for the following additional resources:

- 2 FTEs – Account Managers will be responsible for providing individualized account management services that directly assist existing, new and potential customers in identifying, developing and implementing NGV transportation solutions and process improvements.

- Non-labor increase will support customer outreach activities, industry events, employee costs/training, software, and participation in external forums to help increase NGV market education.

Table AC-19 describes the incremental costs associated with the increased resources.

TABLE AC–19
Clean Transportation Customer Outreach Cost Breakdown

Clean Transportation Customer Outreach Programs Cost Breakdown (2200-2560) 2019 (2016 $, 000s)				
Customer Outreach Programs 2200-2560	$205	N/A	2 FTEs: Account Managers	$205
	N/A	$106	Engineering analysis. Industry memberships, consulting, product management, employee training, and software.	$106
Incremental Request	**$205**	**$106**	**TOTAL**	**$311**

B. Renewable Gas

Table AC-20 below summarizes SoCalGas' requested TY 2019 expenses for the Renewable Gas Customer Outreach group.

TABLE AC-20
Shared O&M Summary of Costs for Renewable Gas Customer Outreach

CS - INFORMATION (In 2016 $)			
Incurred Costs (100% Level)			
A. CS-Information	**2016 Adjusted-Recorded (000s)**	**TY 2019 Estimated (000s)**	**Change (000s)**
1. Renewable Gas Customer Outreach	423	954	531
Incurred Costs Total	**423**	**954**	**531**

1. Description of Costs and Underlying Activities

California law provides for the active utility support of renewable gas market development activities. For example, Section 399.24(a) of the Public Utilities Code states: "To meet the energy and transportation needs of the state, the commission shall adopt policies and

programs that promote the in-state production and distribution of biomethane. The policies and programs shall facilitate the development of a variety of sources of in-state biomethane." In addition, Section 399.20(f)(2)(D) of the Public Utilities Code states: "The commission shall encourage gas and electrical corporations to develop and offer programs and services to facilitate development of in-state biogas for a broad range of purposes."

The Renewable Gas Customer Outreach group is specifically focused on pursuing these goals by supporting customer implementation of renewable gas projects. The group incurs both labor and non-labor costs to support customer development and utilization of biogas resources in furtherance of state policy goals for the growth of renewable gas resources. Specific customer-related activities include supporting customer and market development through industry events and conferences such as the 2016 SoCalGas Renewable Natural Gas Workshop hosted at the SoCalGas Energy Resource Center in Downey, educating customers on technology options and project economics, providing information on state and local incentive programs, monitoring renewable gas credit prices, and developing presentations and informational materials for use by others in the company including public affairs, communications, environmental policy, and general account managers.

2. Forecast Methodology

A three-year average forecast method is used for this cost center because it provides an appropriate starting point to take into account existing activities and to add incremental activities. Activity levels in the forecast period are anticipated to increase due to significant new activity necessary to develop dairy resources, as well as landfill resources, and to facilitate an expected increase in utility pipeline interconnections. Additional outreach and support will also be undertaken in support of biomethane development and distribution.

3. Cost Drivers

I am requesting a funding level for Renewable Gas Customer Outreach of $0.954 million for TY 2019. This increase will help accelerate development and customer education of renewable gas resources in the SoCalGas service territory. To support the anticipated level of incremental activity related to the growing role renewable gas plays in meeting California's ambitious GHG reduction goals, $0.480 million will be necessary, above the three-year average at an incremental labor cost of $0.330 million and non-labor cost of $0.150 million.

To support this increase, the following resources will be required as described below and in Table AC-21:

- 3 FTEs – Market Advisors will be responsible for providing individualized account management services that directly assist existing, new and potential customers in identifying, developing and implementing renewable gas solutions.
- 1 RG Market Analysis study and support to provide guidance to SoCalGas on the available market and the application of renewable gas.

TABLE AC-21
Renewable Gas Customer Outreach Cost Breakdown

Renewable Gas Customer Outreach Cost Breakdown 2019				
Program	Labor	Non-Labor	Explanation	Total
Renewable Gas Customer Outreach	$330	N/A	3 FTE: Market Advisor	$330
		$150	Renewable Market Analysis	$150
Incremental Request	**$330**	**$150**	**TOTAL**	**$480**

Renewable gas will play an important role in meeting the state's goals for GHG and SLCP reductions. When renewable gas is used for transportation, it has among the lowest carbon intensity scores of any substitutes for gasoline and diesel.[65] RG will also play an important role in meeting the state's SB 1383 SLCP reduction goal of forty percent (40%) methane reduction from 2013 levels by 2030.[66] That methane can be captured and cleaned to produce renewable gas for use in transportation, as well as in homes and businesses.

Recent legislation has also set the stage for an increase in renewable gas projects. SB 1383 requires the CPUC to direct utilities to implement no less than five dairy pilot projects that interconnect to the utility pipeline. This pilot project is expected to be operational no earlier than

[65] "LCFS Pathway Certified Carbon Intensities", CARB, *available at*: https://www.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm (Sept. 1, 2017) (283 gCO2e/MJ or more than 380% GHG reduction compared to diesel).

[66] California Health and Safety Code § 39730.8(c). Approximately eighty percent (80%) of all methane emissions in California come from the state's dairy and farm operations, landfills and wastewater treatment plants. *See also* "Sources of CH_4 in California: 2015 Total CH_4 Emissions", CARB, *available at*: https://www.arb.ca.gov/cc/inventory/background/ch4.htm.

2018. The Renewable Gas Customer Outreach group will be engaged in implementing dairy pilot projects throughout SoCalGas' service territory. The dairy projects will require external market outreach and coordination with dairies as well as dairy digester developers and biogas cleanup technology vendors. Both dairy and other renewable gas projects will require external outreach and engagement to various regulatory agencies to define the utility's role and scope, as well as to participate in workshops and proceedings.

SB 1383 also modified Section 39730.6 of the Health and Safety Code to require a 50-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020, and a 75-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025. In addition, AB 1826 added Section 42649.8 et seq. to the Public Resources Code to create a mandatory organics recycling program for entities that produce a specified amount of organic waste.[67] Both SB 1383 and AB 1826 will result in diversion of more organic waste from landfills, a larger feedstock available for anaerobic digestion, and the potential development of more biogas projects. AB 2313 expanded the current biomethane pipeline interconnection incentive program by increasing the allowable incentive funding for interconnection of biomethane projects from $1.5 million to $3 or $5 million, depending on the type of project.

The Renewable Gas Customer Outreach group is involved with community outreach and customer education to ensure awareness of these new renewable gas programs, requirements and incentives. To support AB 2313 and other renewable gas projects, the group will continue to provide facilitation support for biogas project developers wishing to interconnect with the SoCalGas system. For example, in 2017, the Renewable Gas Customer Outreach group: 1) created a new section on socalgas.com to educate customers and developers on biogas and renewable gas, 2) developed the Renewable Natural Gas Toolkit to assist biogas producers with information and technical guidance to support the interconnection process, and 3) reviewed the Rule 39 interconnection process and identified areas to help streamline the process.

[67] Cal. Pub. Res. Code § 42649.81.

V. CAPITAL PROJECTS

A. Introduction

I sponsor the business justification for the capital IT projects listed below (Table AC-22). These IT projects fall under two primary areas: improving the customer experience and mandated activities. The IT capital costs are presented in the testimony of Christopher Olmsted, SoCalGas - Information Technology (Ex. SCG-26).

TABLE AC-22
Capital Expenditures Summary of Costs

Project No.	Capital Projects	Estimated 2017 ($000s)	Estimated 2018 ($000s)	Estimated 2019 ($000s)
19048	Data Driven Customer Communications	$ -	$ 2,218	$ 2,202
19053	My Account Additional Self-Service Features and Transactional Improvements	$ -	$ 934	$ 6,343
19054	My Account Customer Engagement Improvements	$ -	$ 1,381	$ 2,072
19055	Optimizing Self-Service Payment Extensions	$ -	$ 486	$ -
19057	Socalgas.com/My Account Alignment	$ -	$ 940	$ 1,866
84285	Customer Experience	$ 3,287	$ -	$ -
	Sub-Total Improving Customer Experience	**$ 3,287**	**$ 5,959**	**$ 12,483**
84303	AB802 Building Benchmarking	$ 611		
19130	GT-NC Rate Changes	$ 476	$ 551	
84310	Socalgas.com Transactional and Regulatory	$ 90		
	Sub-Total Mandated	**$ 1,177**	**$ 551**	**$ -**
Capital IT Projects, Estimated Annual Total		**$ 4,464**	**$ 6,510**	**$ 12,483**

CS-I capital expenditures are driven by two factors:

- Improving the Customer Experience summarized in Table AC-23, and

- Mandated by Regulation Improving Customer Experience summarized in Table AC-24.

TABLE AC-23
Capital Expenditures – Improving Customer Experience Summary of Costs

CS - Information	Estimated 2017(000s)	Estimated 2018(000s)	Estimated 2019(000s)
Improving Customer Experience	3,287	5,959	12,483

1. 19048 Data Driven Customer Communications

The forecast for Data Driven Customer Communications in 2018 and 2019 are $2.218 million and $2.202 million respectively. SoCalGas plans to build and place this project in service by TY 2019. Currently, for each transactional or marketing email campaign, all residential customers are receiving similar emails that are meant to communicate to a wide audience, rather than tailored to a customer segment's particular needs. This project intends to deliver more relevant, personalized, and engaging emails to various customer segments by utilizing internal and external customer information to modify email messages, tone and content.

Personalized messaging using unique customer data generates six times higher transaction rates and increases overall customer engagement.[68] As a result, personalized or tailored messaging is expected to benefit disadvantaged communities by driving increased program enrollment in low-income and energy efficiency programs (such as CARE and ESA) and help low-income customers manage their energy bills and reduce late payments and/or special payment arrangements. In addition, such messaging can improve safety by supporting the retention of safety communications and reducing the number of missed customer field visits. Finally, personalized messaging promotes efficiency by presenting energy information to better understand and manage customer energy usage during winter months, increasing the effectiveness of paperless billing campaigns, and reducing the level of effort by customers using self-service channels such as the Interactive Voice Response system (IVR), My Account and socalgas.com, through reinforcing the success of their transactions and the appointment details for their service.

[68] "Experian Marketing Services study finds personalized emails generate six times higher transaction rates", Experian, *available at*: https://www.experianplc.com/media/news/2014/experian-marketing-services-study-finds-personalized-emails-generate-six/ (Feb. 5, 2014).

Specific details regarding project 19048 (Data Driven Customer Communications) can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00774H).

2. 19053 My Account Additional Self-Service Features and Transactional Improvements

The forecast for My Account Additional Self-Service Features and Transactional Improvements in 2018 and 2019 are $0.934 million and $6.343 million, respectively. SoCalGas plans to build and place this project in service by TY 2019. Currently, customers needing to adjust the dates or times for starting or moving their gas service orders must cancel existing orders and create new orders, often contacting the Customer Contact Center (CCC) via telephone to make the new arrangements. This project will facilitate customer self-service by removing some of the interface and system dependencies between the online self-service features and the CIS system thereby improving the completion rate for customers.[69] In addition, the project will provide more capabilities to review and edit those service orders once created online.

Specific details regarding project 19053 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00774L).

3. 19054 My Account Customer Engagement Improvements

The forecast for My Account Customer Engagement Improvements in 2018 and 2019 are $1.381 million and $2.072 million, respectively. SoCalGas plans to build and place this project in service by TY 2019. This project will streamline the process to register into My Account to allow more customers to register for My Account to view and pay their bills, manage their energy usage and request service orders online. The project will also simplify standard online tasks such as resetting passwords and obtaining username information, and improve customer online security by implementing a multi-factor authentication process to ensure the identity of the customer. These improvements will reduce customer need to contact the CCC via telephone and will facilitate online tasks such as bill payment arrangements, energy usage management and service order scheduling. Specific details regarding project 19054 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00774M).

[69] The number of customers using the online self-service features of My Account and socalgas.com to start or move their gas service has been growing by 7% annually.

4. 19055 Optimizing Self-Service Payment Extensions

The forecast for Optimizing Self-Service Payment Extensions for 2018 is $0.486 million. SoCalGas plans to build and place this project in service by TY 2019. Phone calls by customers for payment arrangements and payment extensions (PA/PE) make up a significant percentage of the calls to the CCC, however currently, many customers are limited or prevented from completing a PA/PE request in the self-service channels by existing billing and payment rules contained within the Customer Information System (CIS) system. This project will remove certain billing and payment rules contained within the CIS system allowing more PA/PE requests to be entered through self-service channels and improve the completion rate for customers. This will allow more customers to schedule payment arrangements or extensions and avoid collection activity or possible disconnection of service. Specific details regarding project 19055 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00774N).

5. 19057 SoCalGas.com/My Account Alignment

The forecast for SoCalGas.com/My Account Alignment in 2018 and 2019 are $0.940 million and $1.866 million, respectively. SoCalGas plans to build and place this project in service by the TY 2019. Currently, SoCalGas' My Account system and the website www.socalgas.com have separate designs with separate and unique content and imagery. This project will improve the level of information available to customers using My Account and provide more online self-service to customers using www.socalgas.com by combining the user interface of the two systems to provide a consistent look and feel. In addition, the project will integrate the registration and logon process so customers can stay logged on to My Account while searching and retrieving general utility information at www.socalgas.com. Furthermore, this project is expected to benefit disadvantaged communities by driving increased program enrollment in low-income and energy efficiency programs (such as CARE and ESA) and help low-income customers manage their energy bills and reduce late payments. Finally, the project will increase efficiency by facilitating the usage of the search help and other information tools online, make it easier for customers to access and manage their energy usage in the winter months through the online energy management tool 'Ways to Save,' and help customers obtain SoCalGas safety communications. The specific details regarding project 19057 can be found in

the workpapers of Mr. Olmsted, SoCalGas – Information Technology (Ex. SCG-26, CWP 00774O).

6. 84285 – Customer Experience

The forecast for the Customer Experience project is $3.287 million in 2017. SoCalGas plans to build and place this project in service by the TY 2019. The Customer Experience Project provides enhancements (generated by FOF and necessary for providing the forecasted FOF benefits discussed in Section I.C. above) focused on improving and increasing use of self-service systems by reducing the level of effort needed by customers to do the following: handle their service requests when calling the CCC, find information and use online services on www.socalgas.com and My Account, and utilize self-service in the IVR system. The project will also increase enrollment in My Account and paperless billing by allowing CSRs to enroll new customers while on the phone to create a start service order.

Specific details regarding project 84285 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00774T).

TABLE AC-24
Capital Expenditures Summary of Costs

CS - Information	Estimated 2017(000s)	Estimated 2018(000s)	Estimated 2019(000s)
Mandated	1,177	551	0

7. 84303 – AB 802 Building Benchmarking

The forecast for AB 802 Building Benchmarking in 2017 is $0.611 million. SoCalGas plans to build and place this project in service by the TY 2019. This project is required to meet the data and process requirements mandated by AB 802 to establish a new statewide energy use benchmarking and public disclosure program, and maintain energy usage data for all buildings to which SoCalGas provides service.[70] This project will enhance and augment existing business processes and systems to support the new AB 802 requirements. The enhanced system will

[70] "Existing law requires electric and gas utilities to maintain records of the energy consumption data of all nonresidential buildings to which they provide service and requires that this data be maintained, in a format compatible for uploading to the United States Environmental Protection Agency's ENERGY STAR Portfolio Manager, for at least the most recent 12 months." https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB802.

provide fully automated support for all data requests while also monitoring and managing the requests.

Specific details regarding project 84303 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00754A).

8. Description 19130 GT – NC Rates

The forecast for GT – NC Rates in 2017 and 2018 is $0.476 million and $0.551 million respectively. SoCalGas plans to build and place this project in service by the TY 2019. Currently, pursuant to CPUC decision D.16-07-008 and the Curtailment Procedures Settlement Agreement, SoCalGas is mandated to implement a new tariff (GT-NC) and modify existing rules related to curtailment. The changes to the curtailment rules will require system updates to Specialized Customer Billing System (SCBS), Customer Contracts System (CCS), Customer Information System (CIS) and Measurement Collection System (MCS) to provide more than 900 non-core customers with accurate tariff information. Specific details regarding project 19130 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00754F).

9. Description 84310 – Socalgas.com Transactional and Regulatory Enhancement

The forecast for Socalgas.com Transactional and Regulatory Enhancements in 2017 is $0.090 million. SoCalGas plans to build and place this project in service by the TY 2019. This project will upgrade the current Content Management System (CMS) used to manage all text, image and layout content on www.socalgas.com by implementing new CMS software. This project will also improve the disaster recovery capabilities for www.socalgas.com by adding additional fail-over servers. During the upgrade, the project will also implement a new architecture for socalgas.com that utilizes 'responsive web design' to enable a consistent user experience across various sized devices (*e.g.*, mobile phones, tablets, desktop browsers).

The project will also help to improve customer safety by increasing the disaster recovery capability to the highest disaster recovery tier for SoCalGas' systems (Tier 1), which should enable recovery within 24 hours. This will help to provide more reliable communication through socalgas.com during any extraordinary situations since people will be driven to socalgas.com for details and updates for all SoCalGas communications about the situation.

Specific details regarding project 84310 can be found in the workpapers of Mr. Olmsted, SoCalGas - Information Technology (Ex. SCG-26, CWP 00774W).

VI. CONCLUSION

The SoCalGas forecast of O&M expenses and planned capital expenditures represented in my testimony balances the existing customer communication, education, assistance and support activities with incremental activities that meet the following three enhanced goals: 1) addressing the state greenhouse gas reduction goals, 2) meeting the special needs of disadvantaged communities, and 3) satisfying our customers' ever-increasing desire for faster communication through multiple channels.

In summary, these forecasts reflect sound judgment and represent the impact from higher regulatory expectations to continuously support and enhance the safe operation of the SoCalGas natural gas system at a reasonable cost. The CPUC should adopt the forecasted expenditures discussed in this testimony because they are prudent and reasonable.

This concludes my prepared direct testimony.

VII. WITNESS QUALIFICATIONS

My name is Andrew Cheung. My business address is 555 W. Fifth Street, Los Angeles, California. I am the Cap and Trade Program Manager for SoCalGas, a Sempra Energy regulated California utility. I am responsible for overall program compliance, customer impact analysis and coordination with other GHG reduction programs. Previously at the Company, I was Senior Counsel in the Business section of the Legal Department. I am currently serving on the board of the Asian American Professional Association. I hold a bachelor's degree in economics from Yale University and a law degree from University of California, Los Angeles.

I have not previously testified before the California Public Utilities Commission.

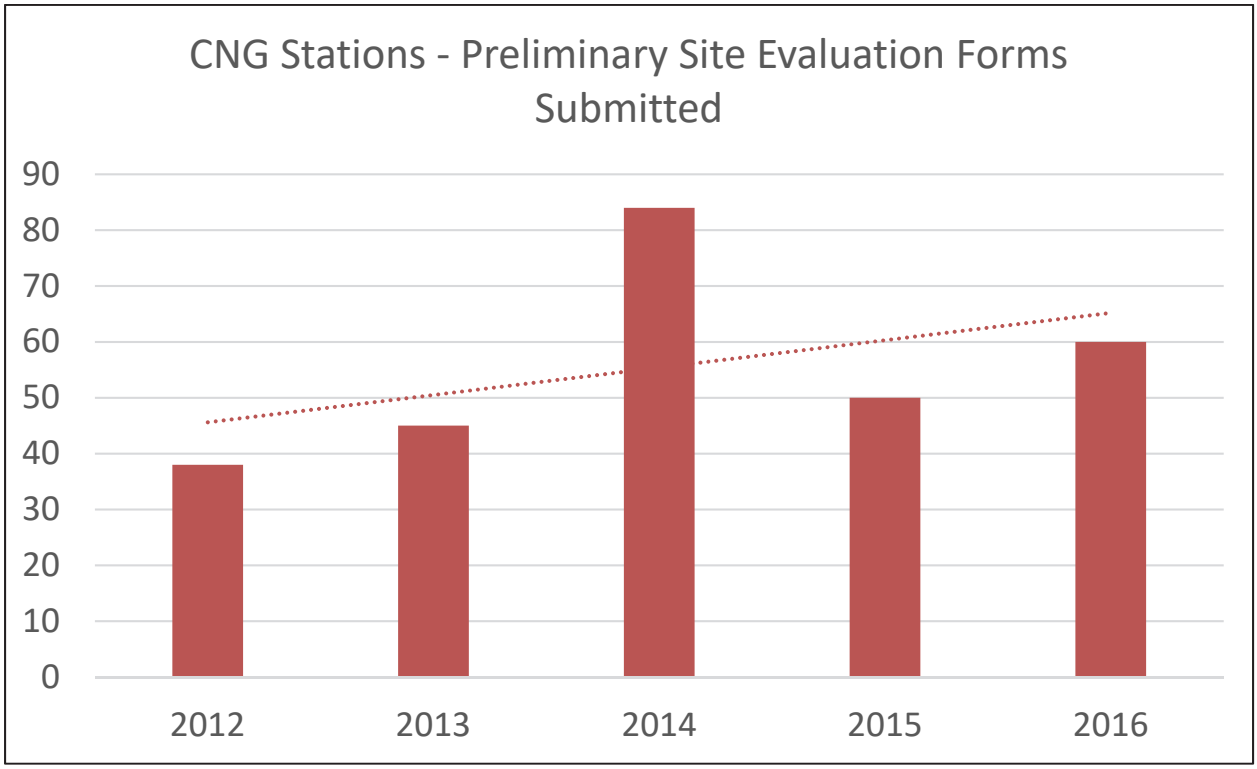
APPENDIX A

SOCIAL MEDIA GROWTH

Year	Total Facebook Likes	Total Twitter Followers	Total Instagram Followers	Total YouTube Subscribers	Total
2015	31,090	7,850	536	481	39,957
2016	35,331	9,542	1,419	857	47,149
Change from 2015 to 2016	14%	22%	164%	78%	18%

Source: various social media accounts; Youtube: lifetime subscribers with end date of last date of respective year.

APPENDIX B – FOOTNOTE 49
PRELIMINARY SITE EVALUATION DATA



APPENDIX C
GLOSSARY OF ACRONYMS

AB:	Assembly Bill
ACT	Advanced Clean Trucks
AMI:	Advanced Metering Infrastructure
AQMP:	Air Quality Management Plan
AR:	Account Representative
BY	Base Year
CalEPA:	California Environmental Protection Agency
CARB:	California Air Resources Board
CCC:	Customer Contact Center
CCS:	Customer Contract System
CIS	Customer Information System
CMS:	Content Management System
CNG:	Compressed Natural Gas
CNGVC	Compressed Natural Gas Vehicle Coalition
CPI:	Consumer Price Index
CPUC:	California Public Utilities Commission
CSE:	Customer Strategy and Engagements
CS-I:	Customer Service - Information
CSR:	Customer Service Representative
CWI:	Cummins-Westport
D:	Decision
DAC:	Disadvantaged Communities
DBE:	Diverse Business Enterprise
DER:	Distributed Energy Resource
EPA	Environmental Protection Agency
ERC:	Energy Resource Center
ESAP:	Energy Savings Assistance Program
Ex:	Exhibit
FOF:	Fueling Our Future
FTEs:	Full Time Equivalents
GAF:	Gas Assistance Fund
GHG:	Greenhouse Gas
GRC	General Rate Case
HDV:	Heavy Duty Vehicles
ICDA:	Integrated Customer Service Data Analytics
IT:	Information Technology
IVR:	Interactive Voice Response
LCFS:	Low Carbon Fuel Standard
LIEE:	Low Income Energy Efficiency
MBL:	Medical Baseline
MCS:	Measurement Collection System
NACHA:	National Automated Clearing House Association

NGAT:	Natural Gas Appliance Testing
NGV:	Natural Gas Vehicles
NOx	Nitrogen Oxide
O&M:	Operations and Maintenance
OEHHA	Office of Environmental Health Hazard Assessment
PA/PE:	Payment Arrangements/Payment Extensions
PI:	Pipeline Integrity
PM:	Particulate Matter
PSEP:	Pipeline Safety and Enhancement Plan
RAMP:	Risk Assessment Mitigation Phase
RG:	Renewable Gas
SCAQMD:	South Coast Air Quality Management District
SCBS:	Specialized Contract Billing System
SCE:	Southern California Edison Company
SDG&E:	San Diego Gas & Electric Company
Sempra:	Sempra Energy
SLCP:	Short-Lived Climate Pollutant
SMB:	Small, Medium Business
SMS:	Short Messaging Service
TY:	Test Year
UWGLA:	United Way of Greater Los Angeles
WFTP:	Willing and Feasible to Participate
WP:	Workpaper
WTP:	Willing to Participate
ZNE:	Zero Net Energy

SCG 2019 GRC Testimony Revision Log – December 2017

Exhibit	Witness	Page	Line or Table	Revision Detail
SCG-20	Andrew Cheung	ASC-33	Table AC-15	Add note to table AC-15 stating "If the four year GRC cycle is adopted, as proposed in the testimony of Jawaad Malik (Ex. SCG-44), then this calculation will need to be revised to reflect that."
SCG-20	Andrew Cheung	ASC-46	Table AC-19	In table title block changed "2200-0256" to "2200-2560"