



# **SOCALGAS IDSM ACTIVITIES**

*Integrated Demand Side Resources Rulemaking (R.14-10-003)  
Learning Session I – January 22, 2015*

# The SoCalGas Perspective to Performing Integrated Demand Side Management (IDSMS)

- **Background:** SoCalGas is the largest natural gas service provider in the United States with over 5 million customers
- **Offerings:** SoCalGas offers a number of customer programs to effectuate demand reduction, including Energy Efficiency (EE), Low Income EE, California Solar Initiative – Thermal, and the Self Generation Incentive Program
- **Definition:** Through IDSMS, SoCalGas coordinates the offering and delivery of programs comprehensively to its customers
- **Perspective:** As a single-fuel utility, SoCalGas seeks out internal and external opportunities to integrate programs:
  - To maximize demand-side opportunities available to customers
  - To positively influence the feasibility and economic viability of projects
  - The following examples provide insight how SoCalGas has developed a replicable and scalable approach to integrated program delivery

# SoCalGas IDSM Efforts – Master Partnership with Municipal Utilities

- **Objective:** To integrate all aspects of DSM, including water efficiency, by joining forces with municipal utilities
- **Combined Budget for All Joint Programs:** \$60 million / year
- **Accomplishments:**
  - Launched 14 joint programs with LADWP, Riverside, Anaheim and Pasadena (e.g. SBD, CAHP, Home Upgrade Program, ESAP, etc.)
  - Savings: 475,000 Therms, 12 GWh, 190 million gallons of water **(Claimed)**; 520,000 Therms; 25 GWh **(Pipeline)**
  - Close coordination of DSM opportunities (EE, Water, Demand Response, Distributed Generation and Advanced Metering), including joint account executive training
- **Lessons Learned:**
  - Flexibility to create new programs and projects
  - Centralized back-office support

# SoCalGas IDSM Efforts – Multifamily (MF) Single-Point of Contact

- **Objective:** To deliver comprehensive multi-utility IDSM services and products to multifamily portfolio owners in a coordinated fashion through a multifamily-dedicated account manager
- **Accomplishments:**
  - Multi-measure projects with large portfolios, including LINC Housing, Park La Brea and HACLA
  - HACLA Savings: 43 Properties, 9,000 units, 92,000 Therms, 42 million gallons water
  - IDSM audits at 5 properties, including EE, water and solar thermal opportunities
- **Lessons Learned:**
  - Property owners prefer working with a single person
  - Allows utilities to influence and shape projects in a much deeper and comprehensive manner

# SoCalGas IDSM Efforts – Sustainable Communities

- **Objective:** To incorporate best practices in IDSM, sustainability and Zero Net Energy (ZNE) in planning and construction of new developments
- **Accomplishments:**
  - Projects with Playa Vista to incorporate EE, water efficiency and Distributed Generation (DG) opportunities in the design and construction of community infrastructure
  - ZNE in home design (e.g., KB Home's Double Zero Home)
  - SoCalGas will be working with other new communities in 2015
- **Lessons Learned:**
  - Get in very early in the design and development to influence the project
  - Small steps (e.g., case studies and special projects) can lead to larger positive changes



# MF Single Point of Contact Project Example: LINC Housing – City Gardens

- LINC Housing – City Gardens Complex in Santa Ana, CA
- 274 multifamily units, affordable housing
- Customer Programs (EE, Solar Thermal, Water):
  - ESAP (Joint SCG & SCE implementation) – Weatherization, Domestic Hot Water (DHW) and Ceiling Fan Measures Installed
  - Solar hot water panels (CSI Thermal program)
  - MF Direct Install Programs (SCG & SCE) – DHW and Lighting Measures
  - Third Party Programs – DHW Pump Controller
  - EE Education for Residents/Kids
  - Emerging Technologies - ‘In Unit’ testing of DHW and space heating measures
- Overall year-to-year natural gas reduction:  
16.3%



# Sustainable Communities Project Example: Playa Vista II Development

- Master-Planned Development: 1,750 residential units enrolled in California Advanced Homes, 5 commercial buildings enrolled in Savings By Design.
- Inter-utility collaboration led by SoCalGas: 13 new home projects currently under construction, with comprehensive energy modelling analysis and sustainable guidelines during design phase.
- Community Center Case Study Project (Joint SoCalGas/LADWP Near ZNE project): Emerging Technologies Program helped fund a 75 kW Tecogen cogeneration system and a 46 kW Photovoltaic (PV) system.
  - Community Center project nearing completion (Feb. 2015 opening).



# IDSMS Barriers

- Funding streams for different programs addressed in different venues
- Multiple regulatory agencies with different programmatic initiatives or treatment of issues
- Determining cost-effectiveness of IDSMS projects involving multiple programs
- Unique considerations associated with performing IDSMS as a single-fuel utility



# Questions and Contacts

- Andrew Steinberg  
Regulatory Policy and Reporting Manager  
[asteinberg@semprautilities.com](mailto:asteinberg@semprautilities.com)  
213-244-3817
- Kevin Shore  
Manager - Commercial, Industrial and Mass Markets  
[kshore@semprautilities.com](mailto:kshore@semprautilities.com)  
213-244-5351
- Mugimin Lukito  
IDSM Program Manager  
[mlukito@semprautilities.com](mailto:mlukito@semprautilities.com)  
213-244-4218

# Appendix

## ➤ SoCalGas – LADWP Municipality Partnership

- *Presentation to the CPUC, dated October 17, 2014*

## ➤ **Creating a One-Stop-Shop for Resource Efficiency: A Public-Private Partnership in the Delivery of Energy and Water Efficiency Programs**

- *Prepared for 2014 ACEEE Summer Study Conference*
- *By Mark Drake, Mugimin Lukito, and Gillian Wright (SoCalGas), and David Jacot and Gretchen Hardison (LADWP)*

## ➤ **Reinventing Multifamily: A High-Touch Method of Engaging Multifamily Properties**

- *Prepared for 2014 ACEEE Summer Study Conference*
- *By Mugimin Lukito & Mark Drake (SoCalGas)*



# **SOUTHERN CALIFORNIA GAS – LADWP MUNICIPALITY PARTNERSHIP**

*OCTOBER 17, 2014*

# SoCalGas' IDSM Vision on Customer Programs

**Integrating SoCalGas portfolio of programs/service offerings to better service customers. Single-point-of-contact, multi-program coordination, pre/post-installation energy analysis, referral coordination, streamline implementation & delivery, test new EE technologies etc.**



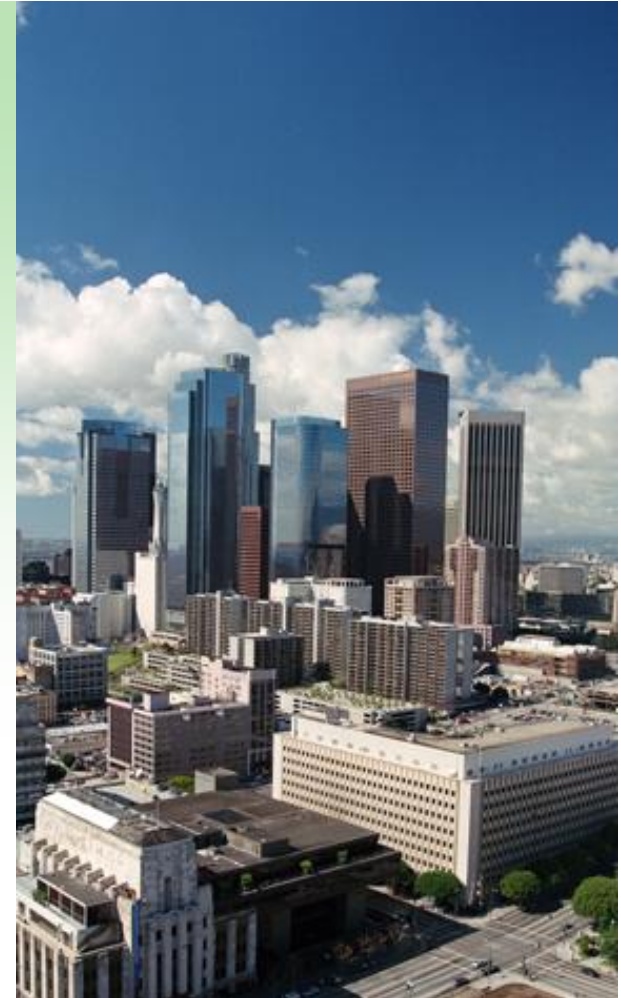
# Integrated Approach to Customer Programs

- » **Develop integrative, sustainable & replicable approach to comprehensively deliver total solutions in order to achieve deep energy savings**
  - Investor-Owned Utility (IOU) Programs/Non-IOU Programs
    - » Gas/Electric/Water
  - Solar Thermal, PV, Fuel Cells, etc.
  - Explore/Test New Programs and Service Offerings
    - » Line Item Billing, etc.
  - Cross Program and Departmental Marketing
  - Providing Innovative Technologies, On-site Testing
  - Track and Document Results, Replicate Success



# Energy Efficiency in the City of LA

- Los Angeles Department of Water and Power (LADWP) provides electricity and water; SoCalGas provides gas
- LADWP, a Publicly-Owned Utility (POU), is the largest municipal electric utility in the nation with 4 million customers
- In California, IOUs' energy efficiency programs are under the oversight of California Public Utilities Commission (CPUC), while POU's are under the California Energy Commission (CEC)
- California IOUs and POU's rarely work together in the delivery of EE



# Next Century Power: LADWP's Energy Efficiency Efforts

- LADWP plans to exit coal by 2025
  - Environmental leadership, AB32, CA Mandated by 2027
  - 2 years ahead of schedule
  - 33% of power supply today
- Replacement power:
  - Natural gas
  - Renewables – Solar, Wind, Hydro, Geothermal, Biogas
  - **Energy Efficiency (EE)**
- Energy Efficiency is targeted to meet 15% of supply needs in 2020
- Investing \$140M - \$170 per year



# Next Century Power: Energy Efficiency Guiding Principles

- Simply making EE goals is not enough
- LADWP and Los Angeles seek to leverage investment in EE to achieve additional goals:
  - Equitable Customer Access
  - Skilled Job Creation
  - Transparency
  - Community Capacity Building
- LADWP Board adopted eight Guiding Principles with broad stakeholder support
  - Mayor and Council offices, environmental advocates, labor and workforce development allies, business community



# Energy Efficiency in the City of LA – Regulatory Framework

- In 2005, California state regulation (SB 1037) required California's Publicly-Owned Utilities (POUs) to make EE a priority
- In 2009, the California PUC directed California IOUs to support local governments EE efforts
- Both utilities have attempted to partner over the years, but opportunistic and very limited in scale
- In 2012, LADWP increased their energy efficiency funding significantly (\$140-170 million per year), and set an EE goal of 10% reduction by 2020. This goal was updated in August 2014 to 15% reduction by 2020.

# SoCalGas & LADWP Energy/Water Efficiency Partnership

- Both SoCalGas and LADWP saw tremendous value in partnering to achieve their respective EE goals
- Executives from both utilities reached an agreement to jointly deliver gas/electric/water programs
- A Master Inter-Utility Agreement (MIUA) for energy and water efficiency was executed on September 4, 2012 after approval by the LADWP Board
- Partnership amount is up to \$440 million for two years
- A MIUA allows a high-degree of flexibility to create multiple joint programs/efforts, including launching new or modifying existing programs



# SoCalGas-LADWP Partnership

- Two Year Anniversary. LADWP partnership started in September 2012, to expire on December 31, 2014
- Partnership includes water efficiency in addition to gas and electricity
- Approximately 20% of SoCalGas meters are in LADWP's territory
- Programs launched: 11. Combined budget is approximately \$32 million.
- Set to renew in Q4 2014
- Total combined budget after Q4 '14: Approx \$47M\*

\* Includes New \$15M Energy Service Assistance (ESA) agreement

# MIUA Structure

## Master Inter-Utility Agreement (Board Approval)

- >> Purpose
- >> General Terms and Conditions
- >> Length and Termination Clauses
- >> Confidentiality of Information and Data

## Program Orders (Management Approval)

- >> Program Lead
- >> Roles and Responsibilities
- >> Program Tasks and Coordination
- >> Budget, Cost Sharing & Invoicing

# SoCalGas-LADWP Partnership Programs

- **Residential New Construction California Advanced Homes**  
SoCalGas Leads – 3/13
- **Home Upgrade Program**  
SoCalGas – 3/13
- **Multi-Family Direct Install**  
SoCalGas – 3/13
- **Commercial New Construction Savings By Design**  
SoCalGas – 5/13
- **LA Better Buildings Challenge**  
SoCalGas – 5/13
- **LA Better Buildings Challenge Events & Education**  
SoCalGas – 7/13
- **Codes and Standards**  
SoCalGas – 11/13
- **Emerging Technologies**  
SoCalGas – 4/14
- **Retro-Commissioning Express**  
LADWP Leads – 10/12
- **Small Business Direct Install**  
LADWP – 7/13
- **LAUSD Direct Install**  
LADWP – 7/13

# Examples of Partnership Success *(As of 7/14)*

- 60 CAHP projects/over 8,000 units enrolled (6.9 GWh, 2.4 MW, 210,000 Therms). 3 projects installed (227 units). Another 3,400+ units in the pipeline
- 18 SBD commercial projects enrolled (1.09 GWh, 40,000 Therms). Another 38 projects in the pipeline
- More than 10,000 multi-family units installed with DHW measures (233,000 Therms, 127 millions gallons of water)
- 268 EUC Home Upgrade homes completed to date (comprehensive retrofits, 56,000 Therms, 0.72 GWh)
- 124 buildings with 18 million square feet enrolled in Better Buildings Challenge audit program

# Partnership Next Steps

- ESA Low-Income Direct Install – Launch Q4 2014. Combined budget of up to \$15 million annually
  - Phase I Launch: Pilot 1-year period. Limited number of contractors and portfolio owners
  - Phase I Delivery Goal: 10k – 20k units treated
- LAUSD Educational Element – Launch, 11/14
  - Fulfill SoCalGas' Workforce E&T for LAUSD
  - Combine budget of up to \$60,000 annually
- Custom Project Cooperation– Late '14/early '15
- Food Service / Multifamily Home Upgrade



# Partnership Highlights / Positives

- Top down support from executive level on both sides
- Joint programs are running very smoothly, all internal program staff are very engaged. ESA to launch soon.
- In total: A very warm working relationship, all stakeholders are very satisfied. SoCalGas continues to explore opportunities to leverage and expand partnership Relationship and shared info has lead to project leads and program enrollments. Joint marketing/events/PR is increasing reach while reducing program delivery costs.
- Very steady and consistent communication, reporting and billing process between the two utilities.

# Partnership Benefits / Impacts

- Improves customer convenience via single-point-of-contact
- Increases incentives, and broadens availability of program and service offerings
- Helps customers save money
- Creates local green jobs and support our economy through public/private partnership
- Increases electricity, natural gas, and water savings in the City of Los Angeles
- Improves air quality and reduce greenhouse gas emissions
- Serves as a model for private/public partnerships within Southern California (Riverside, Anaheim), and nationally

# Meeting the California Big Bold EE Strategies

- » **All new residential new construction in California will be ZNE by 2020, and new non-residential ZNE by 2030:**
  - Partnership in California Advanced Homes, Savings By Design and Emerging Technologies
- » **All eligible low-income given opportunity to participate by 2020:**
  - Launching a partnership in Energy Savings Assistance Program to leverage each utility's income qualified program in the City of LA

# SoCalGas - Riverside Partnership

- Master Agreement executed in 11/2013. Partnership for 10 years.
- In the process of launching three programs:
  - Food Service Audits (SoCalGas)
  - Large Customer Audits (Riverside)
  - ESAP (SoCalGas)
- Will explore how to collaborate in the industrial sector
- Up next: Energy Upgrade California Home Upgrade Program / Small Business / Multifamily Program

# SoCalGas - Anaheim Partnership

- Master Agreement executed 11/2013
- In the process of launching one program:
  - ESAP (SoCalGas)
- Need to renew the Master Agreement by the end of 2014, but does not need to go to City Council
- Up next: Food Service / Energy Upgrade California Home Upgrade Program / Small Business Program



# Program Partnership Integration Success

- A notable project: **Playa Vista II Development** (*High-end green*)
- Master-Planned Development - 2,800 units enrolled in CAHP
- Inter-utility collaboration led by SoCalGas with comprehensive energy modelling analysis and sustainable guidelines during design phase – 13 New home projects currently under construction
- Community Center Case Study Project - Joint SoCalGas/LADWP NZNE project. ET program helped fund a 75 kW Tecogen cogeneration system + 46kW PV system. Community Center project nearing completion – 10/14 Grand Opening



# Program Partnership Integration Success

- A notable project: **Housing Authority of LA (*Affordable*)**
- Joint-utility retrofit led by SoCalGas at 109 Affordable Housing Properties; Over 9,000 Units
- Community Center Case Study Project –  
Joint SoCalGas/LADWP retrofits: LF showerheads/aerators, ESA measures, re-circ pumps, tankless water heaters, hose bib flow restrictor valves etc
- Over 100k therms saved; over 150M gallons of water saved



# Program Partnership Integration Success

- A notable project: **Park La Brea (Market Rate)**
- Largest multifamily housing complex in California with more than 4,200 units (*2<sup>nd</sup> largest MF site in US; largest SoCalGas MF master meter acct*)
- SoCalGas and LADWP collaboration with full site audit. MF program installed low-flow showerheads and aerators at nearly every unit at Park La Brea
- Joint EE programs delivering: New high-efficiency steam boilers, high-efficiency lighting, LF toilets etc. Cogen at pools considered.





# Program Partnership Integration Success

- A notable project: **Ed Begley NZNE Case Study** located in Los Angeles (*Custom Home*)
- Innovation & optimized design
- Ed Begley recently appeared several videos promoting the partnership

*“It is wonderful that the two entities have come together to promote energy efficiency. The combined efforts of SoCalGas and LADWP have made the added elements in the home's construction pencil out. It is important to get the word out that these types of programs exist.”*

*Ed Begley*



# What's Next?

- LADWP Board approved a 10-year energy efficiency target in August 2014, with the goal of 15% of energy reduction by 2020
- SoCalGas is about to receive decision on portfolio extension in 2015, and possibly move to 10-year rolling cycle beyond 2015, depending upon CPUC's direction
- SoCalGas-LADWP partnership set to be extended until 2017, with possibly an option for another 7 years, making it a 10-year renewal
- SoCalGas continues to seek partnership with other local and regional agencies, e.g. MWD

# Questions and Contacts

- Mark Drake (SoCalGas)  
Manager, Residential New Construction, IDSM &  
Municipality Coordination  
[mdrake@semprautilities.com](mailto:mdrake@semprautilities.com)  
213-244-3211
- Gretchen Hardison (LADWP)  
Environmental Affairs Officer, Efficiency Solutions  
[gretchen.hardison@ladwp.com](mailto:gretchen.hardison@ladwp.com)  
213-367-2490



# **Creating a One-Stop-Shop for Resource Efficiency: A Public-Private Partnership in the Delivery of Energy and Water Efficiency Programs**

*Mark Drake, Mugimin Lukito and Gillian Wright, Southern California Gas Company  
David Jacot and Gretchen Hardison, Los Angeles Department of Water and Power*

## **ABSTRACT**

Southern California Gas Company (SoCalGas) and the Los Angeles Department of Water and Power (LADWP) recently began a joint implementation of energy and water efficiency programs and services in their overlapping service territories, primarily the City of Los Angeles, forming one of the largest partnerships of its kind with over \$440 million in combined budget. Customers who had to engage with multiple utilities to receive incentives and services for their energy and water projects in the past, can now conveniently engage with just a single entity. The master agreement entered into by SoCalGas and LADWP has created an interwoven network of programs that allows both utilities to collectively expand program offerings, increase overall participation and savings, and serve as a model for other utilities and program administrators to follow. This paper will discuss the development of the inter-utility agreement between SoCalGas and LADWP, the benefits to a coordinated effort and the results, best practices, and lessons learned from the coordinated efforts. The paper will also discuss the role and influence of this partnership in shaping the delivery network for energy and water efficiency in Southern California, including the development of similar partnerships between SoCalGas and other municipal utilities in its territory.

## **Introduction**

Natural gas and electric energy efficiency in the United States is promoted through an often complex association of programs and policies which include federal and state minimum efficiency standards, state building codes, national programs, such as ENERGY STAR<sup>®</sup>, and utility programs. Many of these programs provide financial incentives to supplement the effort by individuals and businesses. In California, energy efficiency programs and services are provided by Investor-Owned Utilities (IOUs) through ratepayer funding under the auspices of the California Public Utilities Commission (CPUC), and also by Publicly-Owned Utilities (POUs) whose funding is under the auspices of the California Energy Commission (CEC). Due to the differing funding streams, the IOUs and POUs rarely work together to deliver joint programs and services. Departing from the norm, the Los Angeles Department of Water and Power (LADWP) and Southern California Gas Company (SoCalGas) have embarked upon a unique partnership to provide a broader offering of energy efficiency programs to their joint customers. In September of 2012, these two utilities entered into a partnership that would allow them to jointly offer energy and water efficiency programs in their shared territories.

SoCalGas is the nation's largest natural gas distribution utility, providing energy to 20 million residential, commercial, and industrial consumers through approximately 6 million meters in more than 500 communities for over 140 years. The company's service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border. Included in this service territory are

POUs which represent a significant percent of the meters served. The overall budget for 2013-2014 for SoCalGas for energy efficiency programs totals \$178 million.

LADWP has been delivering water and electricity to its customers for more than 100 years. It is the nation's largest municipal water and power utility, providing water and electricity to 3.8 million consumers through approximately 679,000 water meters and 1.4 million electric meters. The company's service territory primarily encompasses the City of Los Angeles. A five-member Board of Water and Power Commissioners establishes policy for the LADWP, which is a revenue-producing proprietary department of the City of Los Angeles, under the authority of the Los Angeles City Council. LADWP's energy efficiency budget for 2012-14 is 260 million. The combined budget of the SoCalGas-LADWP partnership is in excess of \$440 million for 2013-14.

## **Background**

The California Long-Term Energy Efficiency Strategic Plan recognizes the integration of demand-side management (IDSM) options including energy efficiency, demand response, and distributed generation as fundamental to achieving California's strategic energy goals. The Strategic Plan described the IDSM vision as:

*“Energy efficiency, energy conservation, demand response, advanced metering, and distributed generation technologies are offered as elements of an integrated solution that supports energy and carbon reduction goals immediately, and eventually water and other resource conservation goals in the future.”*

To support this initiative, the Investor-Owned Utilities (IOUs) have identified IDSM as a policy priority and have proposed a series of IDSM activities, pilots, programs, and evaluations in their energy efficiency filings that will identify gaps, best practices, and improve efficiencies around delivery of programs in a comprehensive manner to customers (SoCalGas Filing, 1815). This activity supports the directive from the California Public Utilities Commission (CPUC) that the California IOUs develop partnerships with local governments to support their energy efficiency programs. (Cooley & Donnelly 2013)

At the Publicly-Owned Utility (POU) level, similar energy efficiency activities were developing. Senate Bill 1037 required POUs to make energy efficiency programs a priority and Assembly Bill 2021 directed each California POU to meet all achievable cost-effective energy efficiency measures by 2020, in an effort to reduce greenhouse gas emissions back to the 2009 levels with a statewide target of 10 percent energy reduction over 10 years. In 2012 the LADWP Board of Commissioners adopted a goal of achieving 10 percent energy efficiency and is evaluating the feasibility of a 15 percent efficiency goal by 2020. The Board allocated \$127 million for FY 2012-2013 and \$138 million for FY 2013-2014 for energy efficiency programs. The Board also sought to ensure a balanced portfolio of energy-efficiency programs that will address all customers and market segments through adoption of Guiding Principles (LADWP 2012).

For both SoCalGas and LADWP to meet their goals and directives it became evident that a partnership between the two utilities to provide programs and services to the customers in their shared territory would be to each other's advantage. This partnership would allow LADWP to leverage existing SoCalGas programs, allow both utilities to increase customer participation, and assist both in meeting their energy efficiency goals.

## **Elements of the Partnership**

In developing the partnership it became evident to both utilities that separate agreements for each program would require not only significant staff time but would require a separate approval for each program from the Board of Commissioners at LADWP. This could potentially prevent programs from being launched quickly. Since there would be duplication of language in the individual program agreements, it was decided to create a single master agreement that spelled out the overarching details of the partnership and then have separate documents for each of the programs. This would expedite legal review and program manager review and approval.

While there were a number of individuals involved in the development of the agreement, two people stand out as playing a significant role in its eventual approval at both utilities; Gillian Wright, then Director of Customer Programs and Assistance at SoCalGas, and David Jacot, P.E., LADWP's new Director of Energy Efficiency. Ms. Wright oversaw 70 energy efficiency programs in the SoCalGas portfolio. For the joint effort with LADWP she assigned a dedicated team to help coordinate the development of the partnership. Supporting her vision of collaborating with regional municipalities to promote energy efficiency and programs to customers, this team would eventually take the LADWP partnership model and propose it to other POU's throughout Southern California. Much of the success of this partnership can be attributed to the support and guidance that upper management provided.

Before joining LADWP, Mr. Jacot was the Manager of the Energy Efficiency Business Portfolio at Southern California Edison where he lead a diverse department of about 80 professionals and managed over 50 energy efficiency and sustainability programs. Well-versed in utility energy efficiency programs, Mr. Jacot continued the partnership development when he started at LADWP in June 2012. He understood that utilizing existing programs he was familiar with, such as Savings by Design and California Advanced Homes, could facilitate program launches in the City of Los Angeles area. It was important to him to quickly have programs in place to be able to offer them to the customers of LADWP and SoCalGas.

The agreement between SoCalGas and LADWP titled "Master Inter-Utility Agreement between Southern California Gas Company and Los Angeles Department of Water and Power for Energy Efficiency, Resource Savings, and Related Activities" (Master Inter-Utility Agreement, 2012), is a broad document that spells out the relationship between the two utilities. This agreement took approximately a year to develop and execute. It establishes a method for both utilities to provide energy efficiency and resource savings programs for people and companies that reside or do business in the territory serviced jointly by SoCalGas and LADWP. The agreement details the purpose behind the initiative between the utilities, the general terms and conditions, the length and termination clauses, and the confidentiality of information and data. It establishes the goals of the partnership as follows:

- To establish a method to collectively address energy efficiency and resource savings;
- To leverage costs and human resources at both utilities;

- To increase program participation;
- To develop a process that standardizes the sharing of information;
- To establish and implement incentives for customers; and
- To facilitate the implementation of multiple energy efficiency and resource savings programs.

The agreement is intentionally broad and not program specific. It allows for the utilities to create and modify program offerings as best benefits the customers. The specifics of the program are contained in the Program Orders. The Program Orders cover the program description, roles and responsibilities, implementation and schedule, processing, and sharing of information, program lead, program tasks and coordination, budget, cost sharing and invoicing, and program terms and conditions. A separate Program Order is created for each program jointly offered by the utilities. With a dedicated single point of contact at each utility, communication between the program managers was streamlined. This coordinated effort allowed for programs to be quickly launched in the joint territories. Further, it allowed for co-branding of marketing materials, allowing for the utilities to leverage the brand image each utility had. An important element in the Agreement is that training would be provided to each utilities' inspectors and staff on the specific program elements. Mr. Jacot commented that this was particularly beneficial to his staff in learning the program elements of the SoCalGas programs, thus, allowing them to act as an extension of the implementers at SoCalGas. An additional benefit is that water efficiency and the imbedded energy in water could now be included in the joint program offering.

On April 22, 2013, SoCalGas and LADWP announced that they had teamed up to offer \$440 million in energy efficiency funding for the City of Los Angeles. The two utilities would now offer a number of energy saving programs to residential and business customers in the joint service territory. Then Mayor Antonio Villaraigosa commented that *"I applaud SoCalGas and LADWP for their unprecedented collaboration in offering energy-efficiency upgrades to their shared customers. Jointly, these agencies have made energy efficiency a reality and have allowed Angelenos to save substantially on both their water and energy bills."* (SoCalGas/LADWP News Release 2013)

The incentive programs for homeowners include Energy Upgrade California and California Advanced Homes (See Table 1). Energy Upgrade California offers energy-efficient home improvements such as air and duct sealing, new insulation and low-flow shower heads, among others for existing homes. The California Advanced Homes program provides incentives for building more efficient new homes. The incentive programs for businesses includes Savings by Design and Retro-commissioning Express (RCx), a no-cost and low-cost energy optimization program that can reduce electricity and gas bills in qualifying commercial buildings. *"Working with SoCalGas allows us to offer our customers a more complete savings package,"* said David Jacot, director of energy efficiency for LADWP. *"Energy efficiency programs provide an avenue for us to make investments that improve the environment and help create jobs in our community."*

## Partnership Programs

For each program that is offered by the joint utilities, a Program Order is created. The lead utility is responsible for creating the Program Order, offering the program to customers through its delivery mechanism, processing of applications, and performing any measurement

and verification of energy savings that are required by either the CPUC or CEC. The partner utility is involved with program development and the sharing of costs. Mr. Jacot believes that it is crucial that both utilities are involved with program development as the programs evolve and makes the point to have his staff participate in any statewide meetings that take place. He feels it is important that LADWP is viewed as an equal in the program planning and delivery. Many of the programs that the utilities will be jointly offering have been in existence for a number of years, have proven track records of success and can be easily implemented in the City of Los Angeles. Table 1 summarizes the programs that are currently being offered by the joint partnership.

The programs in Table 1 were selected and prioritized based on the following criteria: needs, cost effectiveness, and speed to market. Launching new construction programs, such as California Advanced Homes and Savings By Design, is a very significant undertaking, and by leveraging SoCalGas' existing new construction programs, LADWP is able to serve this market more quickly and cost effectively. On the other hand, launching direct install programs for gas-only measures is an expensive undertaking, and often not cost effective. Having a partner in LADWP that helps offset the cost of serving this market enables SoCalGas to offer direct install of gas measures to the multifamily and small business sectors. The list of joint programs continues to grow and evolve organically, and more joint programs are expected to be launched in 2014 and beyond.

Table 1. SoCalGas/LADWP Partnership Programs

Program	Lead Utility	Program Description	Results (As of December 31, 2013)
California Advanced Homes (Launched March 16, 2013)	SoCalGas	California Advanced Homes provides design assistance and financial incentives to residential new construction home builders who exceed California's Building Energy Efficiency Standards. The program encompasses single and multifamily, both low-rise and high-rise	40 committed projects <b>Projected (pipeline) savings</b> 2,068 kW, 6,139 MWh and 143,767 Therms
Energy Upgrade California (Launched March 16, 2013)	SoCalGas	Energy Upgrade California provides two paths for existing home owners to participate. The Basic Path provides customers a prescriptive set of measures that must be implemented to qualify for the associated incentives and the Advanced Path which provides customer incentives for a more flexible and robust set of measures for home retrofits. The program is open to single-family and 2-4 unit buildings.	70 completed projects <b>Claimed savings</b> 272 kW, 194 MWh and 15,390 Therms 74 committed projects, <b>Projected savings</b> 257 kW, 212 MWh and 16,222 Therms

<b>Program</b>	<b>Lead Utility</b>	<b>Program Description</b>	<b>Results (As of December 31, 2013)</b>
LA Better Buildings Challenge (Launched May 26, 2013)	SoCalGas	This program supports the United States Department of Energy (DOE) national leadership initiative, the Better Buildings Challenge.	124 buildings with 18 million square feet enrolled, and slated to receive an energy audit
LAUSD Direct Install (Launched July 27, 2013)	LADWP	The LAUSD Direct Install program provides for LADWP and SoCalGas participation as a joint workforce to implement energy efficiency measures and direct install retrofits at LAUSD schools within the LADWP/SoCalGas service territory.	Electrical measures completed at 3 schools and in process at 3 others. LADWP working to place plumbers on crews to install water and gas measures.
Multi-Family Direct Therm Savings (Launched March 21, 2013)	SoCalGas	This program provides free installation of low-flow showerheads and bathroom and kitchen faucet aerators for market rate multifamily buildings.	Over 5,000 multi-family units retrofitted with low-flow faucet aerators and showerheads <b>Claimed savings</b> 148,351 Therms 80 million gallons of water
Retrocommissioning Express (Launched October 23, 2012)	LADWP	RCx Express offers cash incentives using a prescriptive method to non-residential customers who undertake a “tune-up” of their existing building system equipment to restore equipment to its original performance level, as designed, if not higher.	3 projects completed <b>Claimed savings</b> 126 MWh and 9,516 Therms 10 pending projects <b>Projected savings</b> 1,225 MWh and 34,543 Therms
Small Business Direct Install (Launched July 27, 2013)	LADWP	Free direct-install program that targets small- to medium-sized business for general lighting, water conservation measures, and natural gas conservation measures.	6,250 assessments completed (electric/gas/water); 5,501 customers enrolled, 2,372 electric installations complete. LADWP working to add plumbers to crews to install water & gas measures.
Savings By Design (Launched May 14, 2013)	SoCalGas	Savings by Design provides design assistance and financial incentives to non-residential new construction developers who exceed California's Building Energy Efficiency Standards. The program is open to commercial and industry projects.	10 projects committed, with an additional 27 projects to be committed



Program	Lead Utility	Program Description	Results (As of December 31, 2013)
Codes and Standards (Launched November 15, 2013)	SoCalGas	This goal of this program is to save energy on behalf of ratepayers by influencing continuous improvements in energy efficiency regulations, and improving compliance with existing codes and standards.	New program launched in late November 2013. No activities at the time of reporting.

Two of the above programs are already demonstrating the benefits of the partnerships. These are the CA Advanced Homes and the Multi-Family Direct Therm Savings programs. The following sections describe each, highlighting how the integrated package of offerings through the partnership led to broader and deeper savings.

### California Advanced Homes Program

The current residential new construction program can trace its roots to the California ENERGY STAR® New Homes Program, launched by the IOUs in 2002. This was the first time that a performance-based program was offered to the building industry on a statewide basis. Previous to this each utility had its own residential new construction program. The California Advanced Homes Program (CAHP) is a comprehensive residential new-construction concept with a cross-cutting focus on sustainable design and construction, green building practices, energy efficiency and emerging technologies. Through a combination of education, design assistance and financial support, the CAHP works with building and related industries to exceed compliance with the California Code of Regulations, Title 24, Part 6, Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Standards), to prepare builders for changes to the Standards, and to create future pathways beyond compliance and traditional energy savings objectives. It is delivered to the building industry through a team of account executives who have a long history of calling on the building industry.

The SoCalGas residential new construction program had, since 2002, paid incentives for both natural gas and electric savings in the city of Los Angeles. In April 2011 this practice was terminated. The result of this change was that projects that were built in municipal utilities service territory would only receive incentives that resulted from natural gas savings. This significant reduction in incentive rendered pursuing greater energy efficiency not cost effective for the builders. The partnership with LADWP reverses this and now allows for incentives to be paid for both electric and natural gas energy savings.

One of the immediate benefits of the partnership can be seen in the Playa Vista development in Los Angeles. The area that is now called Playa Vista was once inhabited by the Tongva Nation. In the 1940s, Howard Hughes bought the site and constructed a private airfield runway named Hughes Airport, and an aircraft factory with hangars for his Hughes Aircraft Company. Many attempts at utilizing the area, including motion picture studios never came to fruition. In 2001, phase one of Playa Vista began as a mixture of affordable and luxury housing, office and commercial space. Additionally, a restored wetlands and wildlife preserve were created along with open spaces and recreational amenities. (Santa Monica Mirror 2001)

Playa Vista Phase 2 will include 2,800 units of single family and multifamily residential housing and a community center. Brookfield Residential is the master developer for Playa Vista, after acquiring the property from Playa Capital Company. With ten builders involved, including,

KB Homes, Taylor Morrison, and Tri Pointe Homes, this billion dollar development will continue the Playa Vista vision of sustainability and energy efficiency. SoCalGas and LADWP took the lead in authoring detailed project analysis for this master planned community prior to the start of construction. The utilities modeled multiple building types to show the most cost effective path to meeting the California Advanced Homes program requirements and the United States Green Building Council's LEED program. Models were created that pushed the energy savings to 30 and 40 percent greater than the minimum required by the existing California standards. These models used packages of measures that would meet the increased energy savings requirements and could have the incremental costs of reaching these savings goals offset by the incentives provided by the program, which now had LADWP's participation to fund the electric energy savings. Tom DiPrima, Executive Vice President, KB Homes Southern California Division, commented that “[*the partnership*] bridges a gap that has been there for a while. Working with SoCalGas and LADWP benefits everybody.”

Beyond the residential units, SoCalGas also brought in SoCalGas' and LADWP's Emerging Technologies and Research and Development departments to help design a zero-net energy Community Center that will be pursuing LEED Platinum certification. Additionally, the utilities helped fund a 65 kW Tecogen cogeneration unit that will heat an Olympic size pool and power the community center.

Playa Vista is envisioned to be a sustainable community. To create that type of project it is important that the elements of sustainability are incorporated at the earliest possible point in development which, in the case of master-planned communities, is at the land planning stage. Derek Fraychineaud, Vice President for Playa Vista Residential Construction, sees this as a tremendous benefit to developers. The partnership between SoCalGas and LADWP represents the first stage of this planning, being able to bring all parties together in the development process. Further, it is important that builders are a part of the program development process. He feels that builder "round tables" should be held periodically so that incentive program developers can learn what issues are facing the builders. Additionally, programs need to be customized to address the specific project, its locations, and design elements.

While the partnership between SoCalGas and LADWP has a number of large projects in development that will generate a significant amount of energy savings, the partnership also has a role in marketing the benefits of energy efficiency to the consumers. Noted American actor and environmentalist, Ed Begley, Jr., is currently building a home in Los Angeles that will be a model of sustainability. This home is participating in the California Advanced Homes program, whose incentives have made it possible to incorporate a number of energy and water efficiency components in the home. Mr. Begley has commented that "*it is wonderful that the two entities have come together to promote energy efficiency. The combined efforts of SoCalGas and LADWP have made the added elements in the home's construction pencil out. It is important to get the word out that these types of programs exist.*"

### **Multi-Family Direct Therm Savings Program**

Park La Brea in Los Angeles is SoCalGas' largest multifamily master metered residential customer. Built during the 1940s, it is an extensive apartment complex with 4,255 units located in 18 thirteen-story towers and 31 two-story garden style apartment buildings. It is the largest housing development in the United States west of the Mississippi River (Foster 2012). It sits on

160 acres in the Wilshire District of Los Angeles. This project is benefiting from the SoCalGas and LADWP partnership by participating in the Multi-Family Direct Therm Savings Program.

The Direct Therm Savings program provides free installation of low-flow showerheads and bathroom and kitchen faucet aerators for market rate multifamily buildings. Park La Brea is participating in this program through jointly funded measures from both SoCalGas and LADWP, which include low-flow showerheads with thermostatic valves and low-flow toilets. One of the benefits of the partnership is that by including a water utility in the program, not only can the hot water energy savings be captured, but the program can expand to include water only measures such as high efficiency toilets. This provides the owners more opportunities to improve an older property, such as Park La Brea, and allows the available program funding to serve more projects.

Currently Park La Brea is evaluating how to replace 36 twenty year old boilers. Each tower has a primary boiler and a backup boiler that supply heating and hot water to the 18 towers. The Director for Maintenance for Park La Brea, Bruce Manning, is working closely with SoCalGas to facilitate these replacements. SoCalGas is providing technical support and energy analysis to assist Park La Brea in making the most economical decision possible for the project. Park La Brea offers an opportunity for the utilities to create a customized program that addresses the specific needs of the project. This is the spirit of the IDSM concept, where program components, incentives and energy savings, are project specific.

## **Expanding the Partnership**

Building upon the successes demonstrated by the partnership between SoCalGas and LADWP, the effort has been expanded to other public utilities. In October 2013 a similar agreement was signed with Anaheim Public Utilities (APU) and in November 2013 an agreement was signed with Riverside Public Utilities (RPU).

In the City of Riverside, the utilities had separately provided their residential and commercial customers with a number of conservation and efficiency incentive programs for years. In 2012, RPU joined with SoCalGas to jointly administer the gas utility's Energy Savings Assistance Program for income-qualified customers, and provided funding for additional electric saving measures to be added to the program. Its success led to the exploration for additional partnerships and the result is an agreement, similar to the one with LADWP, which allows for quick implementation of programs. Among the programs initially targeted for the partnership include RPU's Small Business Direct Installation (SBDI) program, which offers assistance with efficiency elements like lighting retrofits, HVAC system tune-ups, LED case lighting, and efficient motor installations. Through adding gas utility incentives, new customer segments will be reached throughout Riverside. *"Working together, we identified several existing programs that could be combined to create better value and comprehensive savings for our shared customers,"* commented Gillian Wright. *"Our inter-utility agreement demonstrates how public-private partnerships can benefit the community."*

For APU the first joint programs will include an expanded weatherization program to provide whole-house improvements for income-qualified customers, adding gas-saving information to Anaheim's current Small Business Program, and a new program focused on Anaheim's large food service industry. In addition to programs offered in partnership with SoCalGas, Anaheim Public Utilities offers more than 30 conservation programs that help customers reduce their use of water and electricity, including solar energy incentives and free shade trees to reduce air conditioning use. Anaheim Mayor Tom Tait said, *"This collaborative*

*partnership will offer a “one-stop shop” for those customers interested in reducing the total cost of their utilities. By working together, we are making it even more convenient for Anaheim customers to learn about available programs.”*

## **Conclusion**

The development of these partnerships supports California’s Long-Range Energy Efficiency Strategic Plan and demonstrates that public and private utilities can work together for the benefit of their customers. The benefits to the utilities include increased participation in energy efficiency programs, reduced program delivery costs, and the elimination of duplication of efforts.

From the experiences with these partnerships, a number of best practices have emerged:

- Seek executive level support for partnership. Having a company executive as a sponsor helps convey the sense of urgency and importance of the partnership to program staff.
- Make creation of individual program partnerships less onerous. Program partnership is not new, and has been attempted by many parties over the years. An umbrella agreement that allows for creation of new joint programs at the management level without needing to restart the approval process each time (particularly onerous for public entities) also allows the partnership grow organically and evolve to meet each partner’s needs.
- Create a single point of contact for program participant. Having one utility lead and operate the joint program on the partner’s behalf helps streamline program operation, and reduces the burden on program participants.
- Streamline and centralize communications between partners. For common functions across programs, such as invoicing and reporting, it is much easier for each partner to assign a point of contact, rather than have individual program managers communicate and resolve issues with their counterparts. Some issues are rather common, so rather than having each program staff correct the issues repeatedly, it is often more efficient for the point-of-contact for each partner to resolve them at a higher level and apply to all programs.
- Assess each partner’s strength and tap into it. Program leads should be selected based on the strength and history in implementing similar efforts. For example, SoCalGas has implemented various new construction programs over the years. Naturally, it is in a much better position to lead the joint new construction programs.
- Utilize existing branding and programs. By leveraging any existing local, regional or national brands, the joint program would be able to launch quicker than an entirely new effort. For example, by utilizing the Savings By Design brand, which is a California statewide energy efficiency brand for commercial new construction, the joint SoCalGas and LADWP program could be launched within three months of initial discussions, since much of the program resources and infrastructure already existed.
- Allow programs to change and grow to reflect customer needs. Any program agreements should be written to accommodate future changes to the program. For example, SoCalGas and LADWP Program Orders explicitly state that both parties can amend the agreement in writing as needed.

Overall, the greatest benefit of the master partnership is that program communication with customers becomes greatly improved and access to program information is quicker and more accurate. By broadening the availability of programs and services offered by both utilities programs can support both natural gas and electric energy savings (and in some cases, water savings). An added benefit is that the expansion of these programs creates local green jobs and supports the cities economies through the public/private partnership. Improved air quality and reduced greenhouse gas emissions are also part of the increased electricity, natural gas, and water savings the municipal utilities will produce.

It is important that long-term program planning be implemented. Current program planning cycles, especially for IOUs, are too short to achieve long-term energy efficiency savings. Programs need the flexibility to change and evolve so they can continue to offer relevant services to customers. This is especially important with the incorporation of POUs that are regulated by a different agency. Additionally, the municipal utilities need to be part of the program planning process to insure that their customers' needs are recognized.

Internally, utilities need to be innovative and have the capacity to make changes to the Program Implementation Plan (PIP) as needed to address new measures, new technologies, and changes in the Standards. The Park La Brea success demonstrates the need to be able to include multiple segments inside a utility and work across silos.

IDSM, to be successful, requires that utilities and programs, while being responsible to the rate payers, have the flexibility to create innovative partnerships that provide for increased energy and water savings in an ever changing environment. Being innovative is often a risk. The partnership begun by SoCalGas and LADWP and expanding to other utilities is a first step in providing utility customers with a broader range of opportunities and energy savings. Sustaining these partnerships and introducing them to other utilities will provide all Californians with a full portfolio of programs to meet the goals of the Strategic Plan.

## References

- Anaheim Public Utilities Teams with SoCalGas to Provide Energy Efficiency Programs to Shared Customers.* 2013. [news release] October 11, 2013.
- Cooley, H., and Donnelly, K. 2013. *Water-Energy Synergies: Coordinating Efficiency Programs in California.* Oakland, California: Pacific Institute
- Foster, D. 2012. Park La Brea, 70 -year-old design still feels the love (and hate), *Los Angeles Times*, February 24.
- LADWP Announces New Energy Efficiency Director.* 2012. [news release] June 20, 2012.
- Lewis, K. et. al.. 2011. *Achieving Cost-Effective Energy Efficiency for California 2011–2020.* CEC-200-2011-007-SD. Sacramento, California: California Energy Commission - Electricity Supply Analysis Division.
- Los Angeles Department of Water and Power. 2012. *Los Angeles Department of Water and Power (LADWP) Energy Efficiency Portfolio Business Plan, FYs 2012/13 & 2013/14.*

*Master Inter-Utility Agreement between Southern California Gas Company and Los Angeles Department of Water and Power for Energy Efficiency, Resource Savings, and Related Activities.* 2012. [photocopy of executed original].

*Playa Vista Moving Full speed Ahead for Early 2001 Grand Opening.* 2001. *Santa Monica Mirror*, 1 (3).

*Riverside Public Utilities & SoCalGas Partnership Will Provide Comprehensive Efficiency Programs.* 2013. [news release] November 6, 2013.

*SoCalGas and LADWP Now Offer Joint Energy-Efficiency Upgrades to Shared Customers.* 2013. [news release] April 22, 2013.

*Southern California Gas Company 2013-2014 Energy efficiency Programs. Appendix C.* 2012. [filing to the California Public Utilities Commission].



# **Reinventing Multifamily: A High-Touch Method of Engaging Multifamily Properties**

*Mugimin Lukito and Mark Drake, Southern California Gas Company*

## **ABSTRACT**

The multifamily sector makes up 21% of all residential housing units in the US, and the delivery of energy efficiency to this sector usually utilizes a mass-market approach that is typical for all residential customers. In reality, many multifamily property owners operate their properties in a manner resembling a commercial operation. Unlike decisions made by homeowners that are often emotional in nature, those made by multifamily housing operators are usually rational business decisions. Utilizing a similar strategy used for large business customers, Southern California Gas (SoCalGas) started the practice of assigning dedicated account executives to large multifamily property owners in its territory. Being a gas-only utility, SoCalGas is also taking a step further by connecting the property owners to electric and water programs and services from overlapping utilities. This paper will discuss all aspects of the single-point-of-contact strategy, including the statistics, successes, and best practices.

This idea originated from a major retrofit project in Santa Ana, California, with LINC Housing, a nonprofit organization managing a large portfolio of affordable housing. The project yielded actual gas savings in excess of 15%, as well as sizable water and electric savings. As many as six different programs from multiple utilities touched this project, aided by an account executive to coordinate program activities. This project and other case studies demonstrating the value of an assigned account executive will be discussed, and the wide-ranging programs that serve the multifamily sector, from incentives to on-bill financing, will be highlighted in this paper.

## **Introduction**

Multifamily housing makes up about one of every five residential units in the United States (US Census Bureau 2011.) This sector provides a tremendous opportunity for improving energy and water efficiency. A recent study (McKibbin 2012) has shown that comprehensive energy efficiency retrofits for buildings in this sector can improve efficiency by 30 percent for natural gas and 15 percent for electricity. At the national level, this level of savings would translate into annual utility bill cost savings of \$3.4 billion for the entire sector.

Utility programs provide significant funding, \$7 billion in 2011, for energy improvements (Foster et. al., 2012), which could increase to \$16.8 billion by 2025. This is a very significant amount funding that could be leveraged to assist implementation of efficiency projects in multifamily housing, a sector that has been historically underserved by energy efficiency programs. Barriers do exist in this sector (McKibbin 2012), namely:

- The issue of split incentive. Building owners are responsible for making the investment, while tenants, who often pay the utility bills, are the ones receiving the benefits. It is also difficult for building owners to quantify the non-energy benefits, for example higher rents or reduced tenant turnover.

- Efficiency takes a back seat. Multifamily owners are constantly burdened with general maintenance and operational costs, so energy efficiency is often perceived as a luxury investment that they can ill afford.
- Confusion about energy/water efficiency programs. Program administrators are often confused about categorization of multifamily buildings, whether they should be eligible for residential or commercial programs. This lack of certainty can frustrate building owners, thus making them even less likely to participate in efficiency projects.

Due to the cyclic nature of energy efficiency funding, speed to market is often one of the key factors in the design and implementation of energy efficiency programs. Since the multifamily sector is one that has long been considered hard-to-reach, it is not unusual for administrators to create multiple programs and strategies to address this particular market. Such impetus, while justifiable, can lead to more market confusion, especially for building owners who are lacking in resource and patience to digest and select the multitude of offerings thrown at them. In the effort to accelerate multifamily participation in public programs, ACEEE recently released the following best practices for multifamily programs (Johnson 2013):

- Provide a one-stop shop for program services;
- Incorporate on-bill repayment or low-cost financing;
- Integrate direct installation and rebate programs;
- Streamline rebates and incentivize in-unit measures to overcome split incentives;
- Coordinate programs across electric, gas and water measures;
- Provide escalating incentives for achieving greater savings levels;
- Serve both low-income and market-rate multifamily households;
- Align utility and housing finance programs;
- Partner with the local multifamily housing industry; and
- Offer multiple pathways for participation to reach multiple buildings.

Coincidentally, starting in 2012, SoCalGas began implementation of a multifamily project that mirrored the best practices outlined above. This project with LINC Housing or LINC has helped reshape the way SoCalGas and its peer utilities in California deliver energy and water efficiency services and programs to the multifamily housing industry. This new approach, also called the Integrated Demand Side Management (IDSMS), utilizes a single-point-of-contact who helps streamline products and services, making it much more convenient for multifamily building owners to engage with utility programs.

## **Background**

SoCalGas is the nation's largest natural gas distribution utility, providing energy to 20 million consumers through approximately 6 million meters in more than 500 communities for over 140 years. The company's service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border. SoCalGas' overall budget for 2013-2014 energy efficiency programs totals \$178 million. SoCalGas, along with the other California Investor-Owned Utilities (IOUs), started implementing energy efficiency programs in the 1980's (Alliance Commission on National

Energy Efficiency Policy 2013). Over the years, SoCalGas has implemented numerous energy efficiency programs targeted at the multifamily sector.

LINC is a nonprofit organization based in Long Beach, California, that builds, owns, and operates affordable housing for seniors and families throughout California. LINC has a 30-year history of creating communities for thousands of families and seniors throughout California, and its portfolio includes more than 5,500 housing units spread across 57 properties. LINC's mission is to provide housing for people underserved by the marketplace. The need for affordable housing is viewed as a crisis that will continue to persist well into the future. The State of California predicts that California's population will reach 42.7 million by 2050, and 50 million by 2060. The 2060 population will be 39 percent higher than the state's most recent 2012 estimate (California Department of Finance, 2013.) LINC views energy and water efficiency as an important part of its strategy to keep pace with this population growth. Investments in energy and water efficiency result in cost savings that can be re-invested into future properties.

The California Housing Partnership Corporation (CHPC) is an advocacy organization that assists non-profit and government housing agencies in creating and preserving housing affordable to lower-income households. Its mission is also to provide leadership on housing preservation policy and funding. CHPC has embarked on an initiative called Green Rental Home Energy Efficiency Network (GREEN) in the effort to lead a discussion on how to better incorporate energy efficiency in multifamily affordable rental housing. In early 2012, CHPC requested SoCalGas and other California utilities partner with affordable housing providers that are in the process of modernizing their buildings. One of its goals was to create linkages between utilities and affordable housing providers so that the housing providers could receive comprehensive services and assistance in their effort to retrofit their buildings with cost-lowering energy efficient technologies.

The first project introduced to SoCalGas by CHPC was the City Gardens affordable housing complex in Santa Ana, California. The 274-unit property was built in 1969, and acquired by LINC in 1996 with tax-exempt bonds and 4 percent low-income housing tax credits. The City Gardens property was in need of refinancing in 2012, and LINC wanted to bring the property up to date and to include green retrofits. By engaging utility programs, LINC would be able to offset some of its retrofit costs, thereby freeing up capital for other future projects. Given the complexity and scale of the retrofits, however, it would soon become evident that the project's needs extended well beyond what individual utility programs could offer. Instead, it would need a combination of products and offerings that span across different programs and utilities. In other words, a project like City Garden could not fit into any single program that utilities offer, instead, the utilities and utility programs had to work together to deliver an integrated solution befitting the project's ambitious scope.

## **SoCalGas' Residential Multifamily Programs**

SoCalGas' energy efficiency programs are funded by ratepayers under the auspices of the California Public Energy Commission. In the latest program cycle of 2013-14, SoCalGas' funding totals 178 million, and the portfolio is organized into 14 programs and 70 subprograms covering all sectors (Southern California Gas 2012.) Nine of the 70 energy efficiency subprograms touch the multifamily sector. In addition, SoCalGas also offers rebates for

installation of solar hot water heating. Table 1 presents a summary of programs that serve the multi-family sector.

Given the significant number of programs that provide service to the multifamily sector, it is understandable that property owners can be unsure as to how best to leverage these offerings. This uncertainty is further compounded by the fact that some of these programs offer similar, if not altogether identical, measures. Coordination between programs does exist, but is rather limited. For example, Energy Smart and Multifamily Tune Up, third-party implemented programs that provide no cost installations of low-flow showerheads and faucet aerators, do coordinate with the Energy Savings Assistance Program (ESAP) that serves the low-income sector to verify that their targeted facilities have not been served by ESAP or are not on the list of to be served. Such coordination is usually intended to minimize overlaps and avoid duplication between programs, and not necessarily to improve customer experience.

## **The City Gardens Project**

Rehabilitation of the City Gardens property started in the summer of 2012. A need assessment was already performed the preceding year, and LINC had identified a list of improvements that they were considering. The first SoCalGas program that got involved in the project was ESAP, primarily because a large majority of the units were occupied by income-qualified renters. After assessing the list of improvements, it became apparent that ESAP alone could not provide all the services and incentives needed for the project, and a tight-knit coordination between SoCalGas' programs, as well as with other utility programs (City Gardens' electricity is provided by Southern California Edison, and water by Santa Ana Public Works), was necessary. To help manage the coordination with LINC's project manager, it was decided internally that assigning a SoCalGas point person to the project was the best way to proceed.

The task fell to Gail McEneany, a long-time SoCalGas employee with 20 years of experience, most of which as an account executive. At the time of the assignment, Ms. McEneany was an account executive for residential builders, making her a great fit for the role in the City Gardens project. Her years of experience in the residential new construction market proved beneficial in guiding the City Gardens project to the appropriate SoCalGas incentives and services.

Working with her internal program management teams, Ms. McEneany immediately identified the programs that could provide incentives and services to the City Gardens facility, and began coordinating with the program staffs. This process was aided by her several onsite visits to the property. Her firsthand experience with the property enabled her to navigate through specific requirements of individual programs, and to ensure that there were no coverage gaps. For example, by talking with the onsite property manager, Ms. McEneany was able to find out that the property was occupied predominantly by income-qualified renters, but there were also some units at the property designated as affordable but occupied by families that did not meet the ESAP income qualifications. This meant that ESAP's services needed to be supplemented with those from market-rate programs, such as Energy Smart and Multifamily Tune Up. Working with SoCalGas' program staff, Ms. McEneany was able to formulate a plan and a sequence of the programs that would be touching the site. The idea was to arrange for the more comprehensive programs such as ESAP to serve the facilities first, and have the programs with fewer measures come in to serve the rest. It should be noted that the most comprehensive program for this sector, Energy Upgrade California, was not yet available at the time.

Table 1. List of SoCalGas' multifamily programs

Category / Program Name	Description	Example Measures
<b>Income-Qualified</b>		
Energy Savings Assistance Program (ESAP)	Provides no cost installations of energy efficiency measures to low-income customers through a network of vendors.	Weatherization, insulation, low-flow showerheads and aerators
Middle-Income Direct Install Program (MIDI)	Provides no cost installations of energy efficiency measures to middle-income customers through a network of vendors.	Weatherization, insulation, low-flow showerheads and aerators
<b>Third-Party Implemented (3P)</b>		
Energy Smart	Provides no cost installations of low-cost showerheads and faucet aerators	Low-flow showerheads and aerators
Multifamily Home Tune Up	Provides no cost installations of low-cost showerheads and faucet aerators	Low-flow showerheads and aerators
On-Demand Efficiency	Provides no cost installations of boiler pump controllers	Domestic hot water boiler pump controller
<b>Residential Whole-House Program</b>		
Energy Upgrade California (EUC)	Provides tiered incentives for comprehensive home EE upgrades (including dwelling and common areas)	Low-flow showerheads, wall insulation, window replacement
<b>Rebates and Incentives</b>		
Multifamily Rebates (MFEER)	Provides per unit rebate for energy efficiency equipment	High-efficiency storage and tankless water heaters, Energy Star furnaces
Plug-Load Appliance Rebates	Provides instant rebates at point-of-sale or mail-in rebates	High-efficiency storage and tankless water heaters, Energy Star clotheswashers
Customized Incentives	Provides customized incentives for common area retrofits	High efficiency central furnace, space heating optimization
<b>Solar</b>		
Solar Thermal	Provides incentives for installation of solar panel for hot water heating	Solar panels for hot water heating

Such strategy proved effective as the facility was able to maximize the penetration of SoCalGas' programs. Ms. McEneany also coordinated with the other utilities closely, enabling the property to also receive electric and water benefits. Table 2 presents the details of utility

program measures that were implemented onsite. It should be noted that the facility was master metered for gas and water, paid for by LINC, and individually metered for electricity, paid for by the tenant. Due to the uneven program coverage based on each tenant’s income qualification, for instance the ESAP program served only 218 units out of 274, not all units received identical measures from utility programs. To help bridge this gap, LINC used its own funds to match all program measures regardless of who were receiving the benefits, which helped address the owner-tenant split incentive issue. For planning purposes, it would be useful to identify such gaps and inform the property owners early on in the process so that these gaps could be factored into any budget or construction planning. Although not all owners may be willing to cover the gaps using their own funds, having such information at the planning stage helps the owners make the best decision for their facility.

Table 2. List of utility programs serving the City Gardens Project

Program	Measure	Quantity
SoCalGas' ESAP	Weatherization	218
	Pilot Igniters	218
	Space Heater Tune up	218
	Low-flow showerheads	218
	Low-flow aerators	218
SoCalGas' Multifamily Home Tune Up	Showerheads	60
	Bath Aerators	60
	Kitchen Aerators	60
SoCalGas' Emerging Technologies	Thermostatic Shower Valve	6
	HE Wall Heaters	3
SoCalGas' Solar Thermal	Solar Thermal Panels	405 sf x 14 Panels
SCE Multi-Family Rebates	Energy Star Ceiling Fan w/ CFL	215
	Energy Star Exterior Fixtures	386
	Energy Star Interior Fixtures	1038
	Occupancy Sensors	13
	T-8 Linear Fluorescent Fixtures	24

In addition to receiving benefits from regular energy efficiency programs, the facility also agreed to become test sites for two emerging technologies that SoCalGas was studying at the time. The first technology tested was a thermostatic shower valve that reduced the flow of hot water to a trickle when the water temperature exceeded 95 degrees F. Six units were retrofitted with the thermostatic valve, and the results showed that the hot water savings was in the 30-40% range. The second technology tested was a high efficiency wall furnace with AFUE of 71% (California building code requires units with a minimum efficiency of 63% AFUE). Three apartment units were retrofitted with the high efficiency furnace, and the results showed that there were 26% savings in the space heating gas consumption. By assigning a dedicated account executive, SoCalGas built a relationship and trust with LINC over time, and was able to convince the organization to take a risk and test out these technologies.

The City Gardens project also encouraged a new effort within SoCalGas. Initially, LINC was very interested in SoCalGas' On-Bill Financing (OBF) Program, a program offering zero-percent financing for qualifying energy efficiency projects. However, the City Gardens project did not meet the OBF program requirements. The OBF program made it mandatory for any project seeking a loan to be bill neutral, meaning that the resulting monthly installment payment must be equal or less than the monthly cost savings (thus the applicant would not see an increase in its monthly utility bill even after factoring in the installment payment.) Furthermore, the payback period for business projects was limited to five years. Most deep residential retrofit projects in the mild-climate southern California, including City Gardens, would have a difficult time meeting this requirement as they would typically carry a payback longer than five years. Therefore, another alternative to OBF had to be considered. To help accelerate the availability of financing to the multifamily sector, the California Public Utilities Commission (CPUC) directed the California IOUs to develop: “[a] financing program strategy designed specifically for the multifamily residential market that includes both credit enhancement and on on-bill repayment option...” (CPUC 2012). In response to this directive, SoCalGas is currently working on launching on-bill repayment pilots in collaboration with the CHPC that would allow a third-party to finance multifamily energy efficiency projects and seek repayment through the monthly gas bill.

The outcome of the City Gardens project exceeded everyone's initial expectations. Figure 1 shows the property's natural gas consumption in 2011 (before the project) and 2013 (after) relative to monthly average temperature. As it can be seen in this chart, the gas consumption in 2013 showed a remarkable drop of 16.3%, after weather normalization. While many large projects had come through SoCalGas' portfolio programs, not many were touched so extensively by different programs and utilities while also maintaining a seamless customer experience. Without the single-point-of-contact strategy, such outcomes would hardly seem possible. For example, without the account manager, LINC would not have been involved in the Emerging Technologies studies, and the arrangement to have the market-rate energy efficiency program (Home Tune Up) come in right behind the low-income (ESAP)\_program would not have happened. In his note to SoCalGas, Mr. Hunter Johnson, the President and CEO of LINC offered the following testimonial (SoCalGas 2014):

*“LINC Housing utilized the SoCalGas IDSM program to identify and implement numerous gas, electric and water savings measures at our City Gardens Apartments (274 units, Santa Ana). The team from SoCalGas worked with us every step of the way, providing thoughtful recommendations that saved money for both our limited-income families and our property operations.”*

The success of the City Gardens also helped LINC demonstrate its ability to execute large-scale showcase projects, and thus secure a \$1.35 million grant from the California Energy Commission's Public Interest Energy Research (PIER) Program to convert the Village at Beechwood property in Lancaster, CA to near zero energy (Ferris, 2014.) The PIER grant funding will enable LINC to retrofit 30 units at the Lancaster property site to near zero net-energy, and the remaining 70 units will be used as a 'control group'. In addition to LINC and SoCalGas, other participants in the consortium include Electric Power Research Institute (EPRI), BIRAenergy, and Southern California Edison (SCE). In addition, SoCalGas' account executive continues to work with LINC to enroll various properties in SoCalGas' programs.

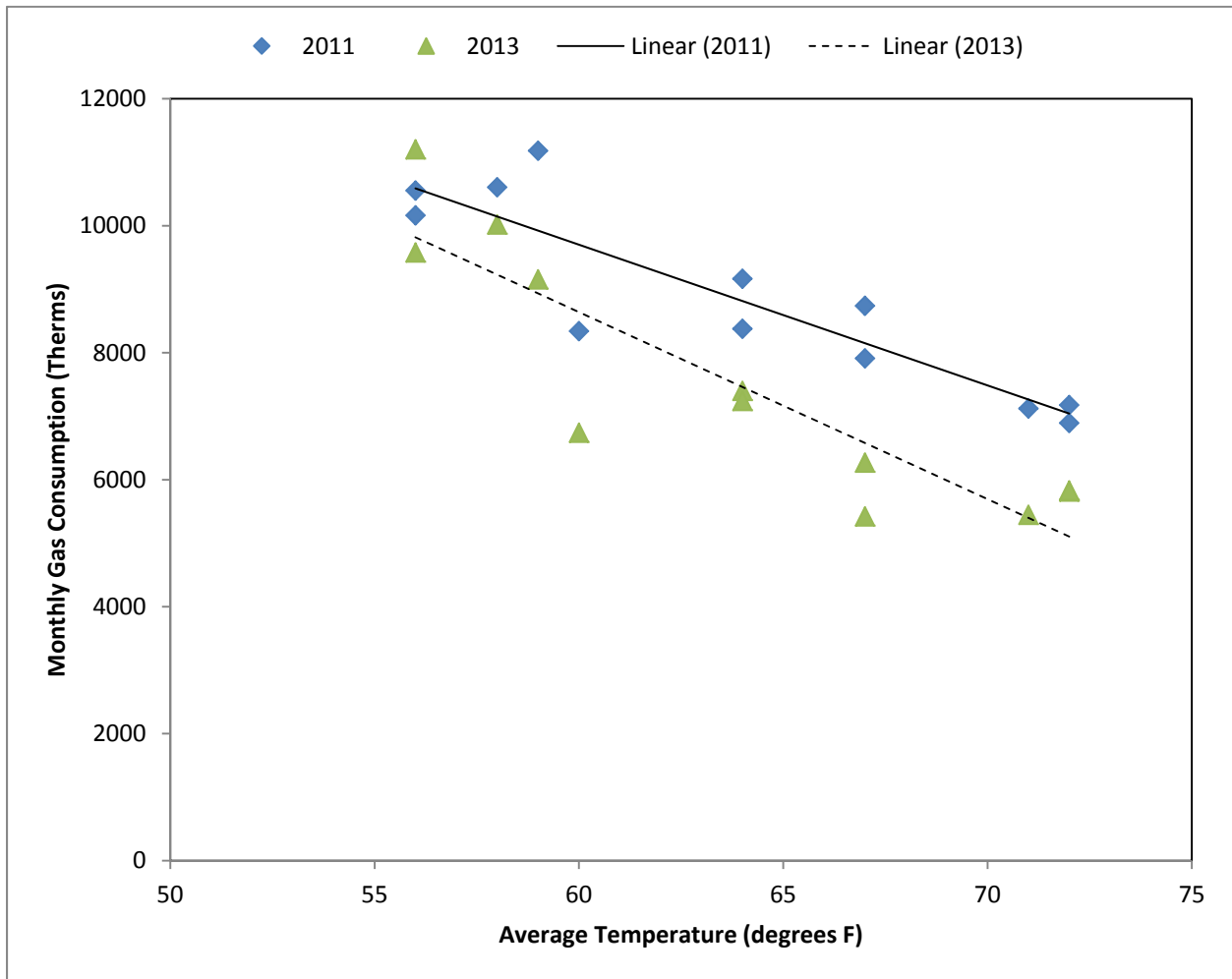


Figure 1. City Gardens’ monthly natural gas consumption before (2011) and after (2013) the Retrofit Project.

## Park La Brea Project

Park La Brea in Los Angeles is SoCalGas' largest multifamily master metered residential customer. Built during the 1940s, it is an extensive apartment complex with 4,255 units located in 18 13-story towers and 31 two-story garden style apartment buildings. It is the largest housing development in the United States west of the Mississippi River (Foster 2012.) It sits on 160 acres in the Wilshire District of Los Angeles.

SoCalGas has been working with Park La Brea throughout the years. However the relationship has been limited to interactions between individual programs and the property. For instance, in early 2013, the property installed several thousands of low-flow showerheads and faucet aerators through the third-party implemented Energy Smart Program.

Following the success of City Gardens approach, SoCalGas made a commitment to expand its single-point-of-contact approach. Park La Brea, being the largest of its kind, was a natural candidate to apply this approach to. In the middle of 2013, SoCalGas assigned an account executive to Park La Brea to start working closely with the property and developing



comprehensive energy projects for the near and far term. The SoCalGas account executive held working sessions with the property manager, and other stakeholders, such as the Los Angeles Better Building Challenge (LABBC)<sup>1</sup>, and the Los Angeles Department of Water and Power (LADWP), the water and electric utility for the property. Encouraged by SoCalGas' success in the City Gardens project, LADWP also assigned a dedicated account executive to Park La Brea in early 2014.

Through the IDSM initiative, Park La Brea received a no cost facility assessment for one of its 13-story towers. This assessment provided an overview of the tower's energy and water efficiency needs, and served as a good planning tool for future projects. Park La Brea is currently considering measures to improve the performance of the steam boilers serving the towers.

## Best Practices

Through its work with LINC and Park La Brea, SoCalGas has identified a number of best practices that will be deployed in future engagements with multifamily property owners. These include:

- Appointing new account managers that are dedicated solely to the multifamily sector. The standard practice in the utility industry is to assign multifamily properties to commercial/non-residential account managers, if they are assigned at all. However, the multifamily sector is unique, and it requires expertise that is more tailored to it. Therefore, assigning multiple multifamily portfolios to a multifamily-dedicated account manager is expected to provide a more effective and consistent service. SoCalGas and other California utilities, such as SCE, are in the process of bringing on account executives dedicated to the multifamily sector. In the beginning, this service will be made available to owners with multiple properties, but may be expanded to include more at a later time.
- Providing extensive training to the multifamily account managers. SoCalGas, like many other large program portfolios, has multiple programs serving the multifamily sector. Each program has its rules and requirements, and may also have overlaps and duplication with others. Knowing the program details, as well as standard practices in the multifamily sector, will allow the account executive to work with property owners more efficiently.
- Creating a road map for program participation. Starting the facility on programs that provide more comprehensive services will encourage the facility to do more. Programs providing specialized services and incentives should be brought in later to cover any gaps. When no-cost or lower-cost specialized measures are provided upfront, they may impact the remainder of the project scope, making it less desirable for property owners to pursue a deep, comprehensive project. Such road map should also consider adding multiple pathways depending on the facility's needs. An example of a road map being used by SoCalGas is presented in Figure 2. In this diagram, the pathway is designed such that the more difficult and comprehensive offerings (such as Energy Upgrade California) are always offered first, and the lighter touches (rebates and education) last. The

---

<sup>1</sup>LABBC is a US Department of Energy leadership initiative to commit building owners in Los Angeles to set a goal of 20% in energy reduction by 2020

rationale is to avoid owners choosing “low hanging fruits” and leaving behind more expensive and comprehensive measures. Also, technical assistance is made available to those facilities that have plans to implement comprehensive measures.

- Involving other utilities early on in the process. In both the City Gardens and Park La Brea projects, SoCalGas involved the electric and water utilities early in the planning process, allowing the project to develop faster and further by increasing the resources available to the project.
- Tracking all available measures and services closely. In partnership with the overlapping utilities, SoCalGas is developing databases of program services, incentives and rebates for the multifamily sector. This database is not only useful for the account manager, but also for property owners who are looking for specific services or incentives.
- Bridging gaps between programs. By having a complete picture of all services and offerings available to the sector, any gaps in services and products could be easily identified. For instance, in SoCalGas’ portfolio of multifamily programs, there is a lack of programs that provide comprehensive audit services. The EUC program currently provides no-cost audits, but only for facilities that were ready to commit to a comprehensive retrofit. To help bridge this gap, the IDSM initiative provides an introductory comprehensive audit to multi-family portfolios that have the financial means to upgrade a facility, but need technical support to identify and plan for the project (see Figure 2.)
- Connecting properties to benefits and services outside of utility programs. Since the multifamily sector is increasingly becoming a focus for energy efficiency and sustainability, new efforts and initiatives targeting this sector continue to be added. These efforts should be monitored and leveraged whenever possible. For example, in the Park La Brea project, SoCalGas is involving the LABBC program, and is also exploring other opportunities such as Property Assessed Clean Energy (PACE) as a funding method.

## **Conclusion**

The City Gardens project has reshaped the way SoCalGas and other California utilities approach the multi-family sector. While the energy efficiency industry often struggles to define the multifamily sector, a successful project like City Gardens makes it clear that it is a sector worth the investment in energy efficiency measures. The reality is that the multifamily sector is unique and significant, and therefore should be provided the special expertise and/or approach it deserves. Many program administrators have created programs specifically targeted at the multifamily sector, but in some cases, like it is in California, the efforts may be comprised of different approaches and strategies that are not necessarily coherent to the customers. Under such circumstances, creating account management resources that are specifically dedicated to this sector should be seriously considered as a key strategy to accelerate adoption of energy efficiency and sustainability in multifamily properties.

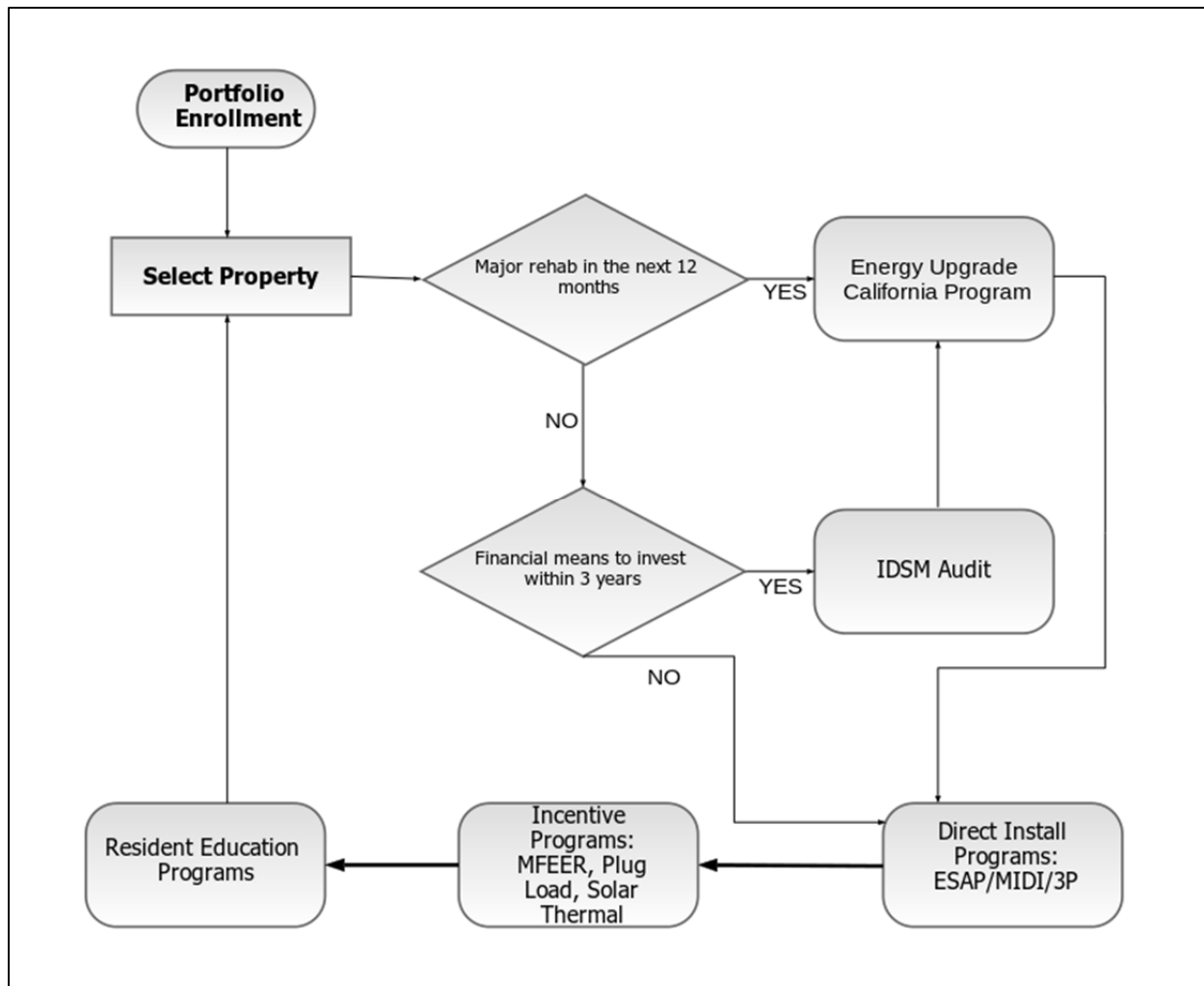


Figure 2. A simple diagram of SoCalGas' Multi-Family Program flow.

## References

Alliance Commission on National Energy Efficiency Policy. 2013. *The History of Energy Efficiency*. Washington D.C., Alliance to Save Energy.

California Department of Finance. 2013., *New Population Projections: California to Surpass 50 Million in 2049*. [Press Release], Sacramento, CA, January 31.

California Public Utilities Commission. 2012. *Decision 12-05-015: Decision Providing Guidance on 2013-14 Energy Efficiency Portfolios and 2012 Marketing, Education and Outreach*.

Ferris, H. 2014. *Consortium Kicks Off Energy Efficiency Project Funded by a California Energy Commission \$1.35-Million Grant*, [News Release] February 12.

- Foster, B. et. al. 2013. *The 2012 State Energy Efficiency Scorecard*. Boston, MA: American Council for an Energy-Efficient Economy. <http://aceee.org/research-report/e13k>
- Foster, D. 2012. *Park La Brea, 70 -year-old design still feels the love (and hate)*, Los Angeles Times, February 24,.
- Johnson, K. 2013. *Apartment Hunters: Programs Searching for Energy Savings in Multifamily Buildings*. Boston, MA: American Council for an Energy-Efficient Economy.
- McKibbin, A. et. al. 2012. *Engaging as Partners in Energy Efficiency: Multifamily Housing and Utilities*. Boston, MA: American Council for Energy Efficient Economy.
- Serlin, C. 2012. *Greening for Greenbacks*, Affordable Housing Finance Magazine, July/August.
- Southern California Gas Company. 2012. *Application to the California Public Utilities Commission: A.12-07-003*.
- Southern California Gas Company. 2014. *Comprehensive Energy-Efficiency Services for Multi-Family Property Owners*.
- US Census Bureau and Department of Housing and Urban Development. 2011. *2011 American Housing Survey*. Washington, DC: US Census Bureau.