

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning  
Energy Efficiency Rolling Portfolios,  
Policies, Programs, Evaluation, and  
Related Issues.

Rulemaking 13-11-005  
(Filed November 14, 2013)

**SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)  
ENERGY EFFICIENCY PROGRAMS 2017 ANNUAL REPORT**

Elliott S. Henry

Attorney for  
SOUTHERN CALIFORNIA GAS COMPANY  
555 West Fifth Street, Ste. 1400  
Los Angeles, California 90013  
Telephone: (213) 244-8234  
Facsimile: (213) 629-9620  
E-mail: [ehenry@semprautilities.com](mailto:ehenry@semprautilities.com)

May 1, 2018

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PROGRAMS 2017 ANNUAL REPORT**

Southern California Gas Company (SoCalGas) submits its 2017 Annual Report for energy efficiency programs and accomplishments. The Annual Report is prepared in accordance with the Administrative Law Judge’s Ruling Adopting Annual Reporting Requirements for Energy Efficiency and Addressing Related Reporting Issues (August 8, 2007), issued in Rulemaking 06-04-010 (Ruling).<sup>1</sup> The Ruling requires “each utility to file its annual report on May 1 of the year following the end of a given program year.”

The Annual Report is attached and will be uploaded and available for viewing on the California Public Utilities Commission’s Energy Efficiency Statistics Application (EESTATs) website.<sup>2</sup>

Respectfully submitted on behalf of SoCalGas,

By:           /s/ Elliott S. Henry            
Elliott S. Henry

ELLIOTT S. HENRY  
Attorney for  
SOUTHERN CALIFORNIA GAS COMPANY  
555 West Fifth Street, Ste. 1400  
Los Angeles, California 90013  
Telephone: (213) 244-8234  
Facsimile: (213) 629-9620  
E-mail: ehenry@semprautilities.com

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<sup>1</sup> Per the Ruling, filing and serving the Annual Report would apply to successor proceedings, which includes this docket. *See* Ruling, p. 4 (OP 2).

<sup>2</sup> Pursuant to D.18-01-004, the dollar amounts of third party contracts included in Appendix C are only provided in the aggregate. D.18-01-004, pp. 64-65 (OP 8). As directed by the Commission, particular contract dollar amounts will be provided confidentially to the Commission.

**ATTACHMENT**

**SOUTHERN CALIFORNIA GAS  
COMPANY**

**ENERGY EFFICIENCY PROGRAMS  
ANNUAL REPORT**

**2017 RESULTS**



A  Sempra Energy utility

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## **2017 ENERGY EFFICIENCY PROGRAM PORTFOLIO SUMMARY**

### **Executive Summary**

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At Southern California Gas Company (SoCalGas), sustainability and environmental stewardship are fundamental elements of doing business. SoCalGas actively works to reduce the environmental impact of our operational practices, and assists customers in reducing their impact by showing them how to use energy more efficiently. SoCalGas accomplishes this by offering a comprehensive suite of conservation and energy efficiency (EE) programs, strategies, and solutions to meet the dynamic energy needs of our customers. In 2017, SoCalGas continued the programmatic successes achieved in prior years of the 2013-2017 program cycle, and further refined its program delivery and implementation processes to actively seek EE opportunities and adapt to its diverse customer base. In 2017, SoCalGas demonstrated the success of its programs by saving customers more than 39.5 million therms, which represents 130% of the energy efficiency goal established by the California Public Utilities Commission (Commission or CPUC). SoCalGas cost-effectively administered EE savings to customers, providing ratepayers over \$148 million in resource benefits. In addition, as part of SoCalGas' commitment to help California meet its goal of greenhouse gas (GHG) emission mitigation, its EE programs avoided over 5.4 million tons of carbon dioxide (CO<sub>2</sub>).

SoCalGas continues to work closely with the Commission and other stakeholders to achieve California's strategic vision and goals to ensure: (1) maximum achievement of all cost-effective and feasible energy efficiency savings in the natural gas sector, (2) programs, strategies, and offerings that provide deep, long-term energy savings, and (3) energy efficiency programs that will generate quick and low-cost reductions in greenhouse gas emissions, as adopted in the California Long-Term Energy Efficiency Strategic Plan and Energy Action Plan (CLTEESP or Strategic Plan), and contribute to a doubling of energy efficiency by 2030, as adopted by Senate Bill (SB) 350.

In order to achieve the Commission's aggressive long-term goals, SoCalGas has partnered with municipal electric utilities and water agencies to increase its program reach, enhance cost-effectiveness, and offer comprehensive demand-side management offerings to customers. This approach minimizes lost opportunities, allows for more comprehensive and deeper energy efficiency projects, and increases operational efficiencies allowing for a more streamlined delivery of ratepayer-funded programs.



**Notable successes during program year 2017 include the following:**

**AB 793 Offerings Approved for Residential and Small or Medium Business Customers**

In 2017, SoCalGas incorporated two new Assembly Bill (AB) 793 programs into its existing energy efficiency portfolio in response to the objective of Section 717 of AB 793 and SB 350. SoCalGas' AB 793 Programs are intended to increase deployment of current demand-side program offerings that promote the energy management technologies within the residential, low-income, and small to medium-sized commercial market segments.

**Supporting the Energy Efficiency Workforce through Education and Training**

In 2017, SoCalGas' Workforce, Education and Training (WE&T) Centergies conducted over 150 training/seminar sessions, over 130 outreach consultations, and over 300 equipment demonstrations. SoCalGas continued implementing steps to adjust its portfolio offerings to include Integrated Demand-side Management curriculum and draw audiences representing occupations that can have the most impact in the success of the SoCalGas program portfolio. During 2017, SoCalGas' WE&T program also incorporated Skype technology to conduct more enhanced discussion and working sessions with market actors and implementers.

**Leveraging SoCalGas' Advanced Meter Infrastructure to Address California's Water Concerns**

In 2017, SoCalGas continued its partnership with San Gabriel Valley Water Company and California American Water to implement two separate Water-Energy Nexus Advanced Meter Infrastructure (AMI) pilots to successfully achieve the following program goals: (1) network piggybacking, (2) combined utility data analytics for hot water leak detection, and (3) determining energy savings from reduced water loss. These partnerships provided over 1,800 installations of water meter transmission units throughout SoCalGas' service territory in 2017, allowing for the successful identification of hot water leaks.

**Effective Collaborations of Programs**

SoCalGas continued program collaboration efforts among different programs, as well as externally with municipalities and IOUs to ensure integration of natural gas/electric/water efficiency, solar, demand response, and advanced metering offerings. Through SoCalGas' single point-of-contact (SPOC) strategy, in 2017 SoCalGas engaged 18 large multi-family portfolio owners, enrolling over 8,000 multi-family units in the low-income Energy Savings Assistance (ESA) Program, Energy Efficiency Multifamily Rebate Program, and On-Demand Efficiency Program. Leveraging the SPOC strategy also resulted in enrolling the single largest residential retrofit project in the SoCalGas' Multifamily Energy Upgrade California Program.

***Project of the Year: Commercial Restaurant Retrofit***

Working together with the Metropolitan Water District, Los Angeles Department of Water and Power (LADWP), and Southern California Edison (SCE), SoCalGas launched the first normalized metering energy consumption (NMEC) programs in the marketplace, and developed processes and procedures to launch similar programs. Using the customer-facing name "Restaurant Refresh," the program targets restaurant owners with education, technical support,

on-site energy assessments, enhanced rebates and ‘performance’ incentives based on one-year gas savings measured through the NMEC process.

## **2017 Program Roster**

Continuing off the successes of 2016, these program highlights reflect a fraction of the accomplishments during program year 2017. Pursuant to Decision (D.) 14-10-046, SoCalGas was authorized \$83.7 million in funding for the SoCalGas portfolio of energy efficiency programs. The annual funding levels established in the 2013-2014 cycle were extended in 2017 by D.14-10-046 to allow the continuation of EE programs in California.

These programs include the following:

### **Statewide Energy Efficiency Programs**

- California Statewide Program for Residential Energy Efficiency
- Commercial Energy Efficiency Program
- Industrial Energy Efficiency Program
- Agricultural Energy Efficiency Program
- Emerging Technologies Program
- Codes and Standards Program
- Workforce Education and Training
- Statewide Marketing Education and Outreach
- Statewide Integrated Demand-Side Management (IDSMD)
- Energy Efficiency Finance Programs

### **Government/Institutional Energy Efficiency Partnership Programs**

- California Department of Corrections Partnership
- California Community College Partnership
- University of California/California State University/IOU Partnership
- State of California/IOU Partnership
- Los Angeles County Partnership
- Kern County Partnership
- Riverside County Partnership
- San Bernardino County Partnership
- Santa Barbara County Partnership
- South Bay Cities Partnership
- San Luis Obispo County Partnership
- San Joaquin Valley Partnership
- Orange County Partnership
- SEEC Partnership
- Community Energy Partnership
- Desert Cities Partnership
- Ventura County Partnership
- Local Government Energy Efficiency Pilots
- New Partnerships Programs

- Regional Resource Placeholder
- Gateway Cities Partnership
- San Gabriel Valley COG Partnership
- West Side Cities Partnership
- Western Riverside Energy Partnership
- North Orange County Cities Partnership
- San Bernardino Regional Energy Partnership

### **Third Party Energy Efficiency Programs**

- Small Industrial Facility Upgrades
- Program for Resource Efficiency in Private and Public Schools
- On Demand Efficiency
- HERS Rater Training Advancement
- Community Language Efficiency Outreach
- Multifamily Direct Therm Savings
- LivingWise™
- Manufactured Mobile Home
- California Sustainability Alliance
- Portfolio of the Future
- PACE
- Innovative Designs for Energy Efficiency Activities
- Instant Rebates! Point of Sale Food Service Equipment Program
- On Demand Efficiency for Campus Housing
- Energy Advantage Program for Small Business
- Connect
- Historical Building Energy Efficiency
- Clear Ice
- On-Premise Ozone Laundry

Pursuant to D.18-01-004 Ordering Paragraph 8, SoCalGas hereby provides information of all third-party contracts noted above in Appendix C of this report. SoCalGas describes the activities performed and the successes achieved during the 2017 program year in these programs in the section entitled *Program Description and Strategies* below.

## **Program Descriptions and Strategies**

### **Statewide Program for Residential Energy Efficiency**

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The Statewide Residential Energy Efficiency sector program is designated as the California Statewide Program for Residential Energy Efficiency (CalSPREE). CalSPREE offers and promotes both specific and comprehensive energy solutions for residential customers. By encouraging adoption of economically viable energy efficiency technologies, practices, and services, CalSPREE employs strategies and tactics to overcome market barriers while delivering services that support the CPUC's Strategic Plan.

CalSPREE's focus is to:

- Facilitate, sustain, and transform the long-term delivery and adoption of energy efficient products and services for single and multi-family dwellings;
- Cultivate, promote and sustain lasting energy-efficient behaviors by residential customers through a collaborative statewide education and outreach mechanism; and
- Meet customers' energy efficiency adoption preferences through a range of offerings including single-measure incentives and more comprehensive approaches.

To date, the IOUs - consisting of SoCalGas, San Diego Gas & Electric Company (SDG&E), Southern California Edison Company (SCE), and Pacific Gas and Electric Company (PG&E) - have implemented a number of different residential EE subprograms that are in various stages of maturity and availability across the state. CalSPREE integrates all of these subprograms to coordinate efforts and increase comprehensiveness of EE measure delivery.

The CalSPREE includes seven statewide subprogram elements that together comprise the core product and service offerings. These subprograms are: Energy Advisor, Plug Load and Appliances, Plug Load and Appliances Point of Sale, Multifamily Energy Efficiency Rebates, Energy Upgrade California Home Upgrade Program, Residential Heating, Ventilation, and Air Conditioning, and California Advanced Homes Program.

## **SCG3701 Residential - Energy Advisor**

The SoCalGas Residential Energy Advisor subprogram is a continuation of the existing statewide Energy Advisor subprogram within the residential energy efficiency portfolio. Although the IOUs share similar program theories, goals and design elements, each IOU may be implementing a unique tool by a different vendor.

In 2017, the SoCalGas Residential Energy Advisor subprogram continued to help customers understand how and when they have been using energy. Customers have the knowledge and tools available to improve their energy efficiency, energy use management, and where appropriate, will be guided to advancing whole-house energy solutions. The subprogram utilizes behavioral outreach initiatives and interactive tools designed to engage and encourage customers to reduce their energy consumption through subprogram recommendations and, as warranted, IDSM opportunities.

SoCalGas' Residential Energy Advisor subprogram exceeded its 2017 program goal by successfully completing 10,000 completed surveys (either online or printed). Year-end results included over 2,300 online surveys and 13,000 printed surveys.

The SoCalGas Residential Energy Advisor subprogram continued to leverage Advanced Meter data to help reduce residential gas consumption in 2017. A test and learn approach was utilized to determine how to best drive residential customers to conserve natural gas. Residential customers identified as high users were randomly selected and assigned to various treatment and control groups with treatment groups producing an average of 1.60% (2,314,756) therm savings

from December 2016 through March 2017. Additionally, 652,875 Opower paper Home Energy Reports (HER), 2,070,250 Opower eHERs (email HER), 233,719 paper Seasonal Energy Update, 127,616 paper Home Energy Update, and 110,000 SoCalGas paper Usage Reports were mailed while 439,599 customers were enrolled in Bill Tracker Alerts.

## **SCG3702 Residential - Plug Load and Appliances**

The SoCalGas Residential Plug Load and Appliances (PLA) subprogram consists of the Home Energy Efficiency Rebate (HEER), Business Consumer Electronics (BCE) and Appliance Recycling (ARP). The subprogram develops and builds upon existing relationships with retailers and includes recycling strategies and whole house solutions, plug load efficiency, performance standards, and opportunities for integration with local government, water agencies, publicly owned utilities (POUs), and the Integrated Demand Side Management (IDSM) subprogram.

SoCalGas' Residential PLA subprogram achieved success in 2017 through improved and continued efforts with participating retail partners. This included the use of in-store signage, increased program visibility and weekly in-store events with third party retail contractors. In 2017, the Residential PLA subprogram managed to increase visibility in hard-to-reach areas through in-store marketing communication and retail store site visits. The success of these efforts is attributed to multiple marketing and outreach campaigns which contributed to the SoCalGas Residential PLA subprogram meeting or exceeding its respective Program Implementation Plan (PIP) forecasts. The subprogram transitioned rebate processing from a third-party vendor to an in-house department that improved processing time and check payments. A mobile application was also introduced, helping expedite application processing.

The SoCalGas Residential PLA subprogram added natural gas pool heaters to the mix of measures and an incentive kicker for natural gas tankless water heaters in the third and fourth quarters of 2017, respectively, to generate increased customer participation.

The PLA subprogram did not meet overall subprogram objectives for 2017.

## **SCG3703 Residential - Plug Load and Appliances Point of Sale**

The SoCalGas Residential PLA Point of Sale (POS) subprogram is a merger of the former HEER, BCE, and ARP and builds upon existing point of sale retailer relationships and includes Responsible Appliance Disposal (RAD) appliance recycling strategies. PLA POS offers rebates and incentives to customers instantly when they purchase and install Energy Star® qualified appliances such as clothes washers. The subprogram has the added benefit of recycling inefficient refrigerators and freezers as well.

The SoCalGas Residential PLA POS subprogram continued to exceed both annual and program cycle goal savings and objectives in 2017. Much of the continued success was due in part to the continued participation with “big box” retailer and continued in-store events throughout the year that helped aid in awareness of the rebate program.

In 2017, the statewide Residential PLA team continued efforts to more effectively and actively recruit new retail partners and engage with existing partners in developing programs and enhance retail store presence. The goal is to increase retailer/customer participation and utility visibility at retail locations. Residential appliance rebate offerings are the major contenders for future Residential PLA POS subprogram developments and additional programs are being evaluated. Promotions focused on using consistent point-of-purchase marketing material statewide and weekend local store outreach have set the foundation for new targeted promotions and more retailers to participate in the future.

## **SCG3704 Residential - Multifamily Energy Efficiency Rebates**

The SoCalGas Residential Multifamily Energy Efficiency Rebates (MFEER) subprogram offers rebates to multifamily building owners and managers for installation of qualified energy efficiency products in apartment dwelling units and in common areas of apartment complexes, condominiums and mobile home parks. Energy efficiency measures include insulation, water heating and space heating.

In 2017, SoCalGas' Residential MFEER subprogram continued to use the Single Point of Contact (SPOC) to outreach and assist customers with measure information, completing forms and information regarding the various multifamily subprograms. The SPOC was augmented by the use of the whole building consultant who is tasked with using his resources to outreach and enroll customers in SoCalGas' Residential multifamily subprograms including MFEER. In addition, SoCalGas continued to outreach to the multifamily sector via tradeshow, events, print ads and coordination with other SoCalGas Residential multifamily subprograms as well as with the Energy Savings Assistance Program.

In 2017, the SoCalGas Residential MFEER subprogram added a smart thermostat to the mix of measures. Outreach efforts focused on providing multifamily customers with holistic solutions and offerings cross-promotion of SoCalGas programs and services as well.

## **SCG3705 Residential – Home Upgrade Program**

The SoCalGas Residential Energy Upgrade California® Home Upgrade Program (HUP) uses a holistic approach to identify and correct comfort and energy-related deficiencies in single family detached homes. Contractors employ building science principles and use sophisticated diagnostic equipment to detect the cause of home performance related problems, and quickly and accurately address them. There are two options to this program, Home Upgrade and the Advanced Home Upgrade. These options allow the customer to choose from a variety of measures that best suit their home and needs. Some examples of measures used consist of attic insulation, air sealing, duct testing, HVAC change out, hot water heaters, pipe wrap, Showerstart thermostatic control valves, along with combustion safety testing.

By partnering with the three IOUs and three municipalities, SoCalGas Residential HUP exceeded their unit and therm goal by over 331,835 therms and 2,198 projects in 2017 with joint programs in the shared territory with PG&E, SCE, SDG&E, the Los Angeles Department of Water and Power, the City of Burbank and Pasadena Water and Power. SoCalGas continued its

efforts to streamline program reporting requirements, train realtors/appraisers in EE and recruit and train contractors. Building on 2017 improvements, the IOUs have continued to work closely with program participants to identify and resolve application and process challenges through desktop procedure review practices, improved inspection processes and additional training to contractors.

The SoCalGas Residential HUP subprogram barriers in 2017 included: the high cost of projects to customers; ensuring 100% project completion to prevent rollover in 2019; helping contractors make the transition to selling the program measures without the incentive offer once the program sunsets; and program uptake leading to the exhaustion of the program budget.

The subprogram exceeded its unit and therm savings goals for 2017.

### **Energy Upgrade California® Multifamily**

Within SoCalGas Residential HUP resides the Energy Upgrade California® Multifamily (multifamily Whole Building), which is an evaluation subprogram for SCE and SoCalGas as an extension of the existing statewide subprogram. The primary purpose is to test performance based approaches in the multifamily housing retrofit market by assisting property owners and managers make informed decisions regarding energy reductions and savings for their properties. The multifamily Whole Building subprogram promotes long-term energy benefits through comprehensive EE retrofit measures including building shell upgrades, high-efficiency HVAC units, central heating and cooling systems, central domestic hot water heating and other deep energy reduction opportunities. The subprogram utilizes professional energy consultants to perform energy audits using approved multifamily audit tools and procedures to evaluate potential EE measures based on a least-cost, maximum-benefit approach customized to each property's specific needs.

The SoCalGas Residential Multifamily Whole Building subprogram completed four projects in 2017 with the Single Point of Contact helping move properties along the participation process. The limited access to investment capital and insufficient return on investment continued to be a barrier to participation in 2017.

### **Middle Income Direct Install**

The SoCalGas Middle Income Direct Install (MIDI) is a direct install program for customers whose income falls between 201% and 300% of the federal poverty guidelines. MIDI works in collaboration with the income qualified Energy Savings Assistance Program (ESA) using the ESA contractors to initiate leads for MIDI, with a goal of 2,000 units per year. To close the financial gap, no-cost measures are installed, reducing the total amount of money a customer would need to invest in their property in order to participate in HUP or the multifamily HUP Pilot.

MIDI works as designed, and has been able to serve all eligible customers requesting service in SoCalGas territory. Using ESA contractors has allowed MIDI to work with all IOUs which in turns allows the MIDI to serve all eligible customers.

## **SCG3706 Residential – Residential HVAC**

The SoCalGas Residential Upstream Heating, Ventilation and Air Conditioning (HVAC) subprogram provides incentives to distributors for stocking and selling high-efficiency residential HVAC systems. By offering equipment incentives upstream, the subprogram maximizes the opportunities to influence the purchase decision and transformation of the furnace market through the supply chain.

In 2017, the SoCalGas Residential Upstream HVAC subprogram saw an increase in both interest and participation. 2017 marked the highest level of participation to date with an increase of more than four times that of any prior year. Despite this success, distributors have reported continued difficulty in obtaining project and customer data. Inspections also continue to have challenges as the ultimate consumer is often disconnected from the Upstream transaction. However, distributors have become accustomed to the data requirements and have adjusted to accommodate program needs.

The Residential Quality Installation (QI) subprogram provides incentives to participating SoCalGas customers for the installation of high efficiency gas furnaces when installed to Energy Star<sup>®</sup> HVAC Quality Installation specifications by a participating contractor. In 2017, the subprogram enrolled many new HVAC contractors, which aided in producing increased participation. The subprogram successfully implemented a “Summer Kicker” marketing campaign that provided an increased incentive over the standard amount, helping to capitalize on the busiest time of the year for HVAC contractors.

The high cost of equipment and Title 24 enforcement continued to produce challenges for the subprogram. The cost of quality installation and permitting requirements led customers to choose a less expensive installation over a quality installation.

## **SCG3707 Residential – Residential New Construction**

The SoCalGas California Advanced Homes Program (CAHP) is a comprehensive residential new construction subprogram 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. Participation is open to single-family as well as low-rise and high-rise multi-family residential new construction built in an IOU service territory.

In 2017, CAHP energy savings, projects and unit participation surpassed both 2017 and 2013-2016 program cycle targets. The residential new construction market has continued its success year after year. The major barrier in 2017 continued to be the increasing Title 24 standards as the State approaches its Zero Net Energy (ZNE) goals. Changes during the year included incorporating new code cycle changes, and as a result, the mechanism to evaluate financial



eligibility was also changed from a CAHP scoring system to a Delta Energy Design Rating point system. As previously mentioned, the subprogram exceeded its savings targets for 2017.

## **SCG3808 Residential – Residential HOPPs Central Water Heating Multifamily Building Solution Program**

The Central Water Heating Multifamily Building Solution Program (CWHMBS) is a bundled measure program that proposes to address stranded opportunities within the multifamily sector and enable better data access by proactively providing whole-building information to building owners. Specifically, the program will provide incentives for the upgrade of both central domestic hot water system and water usage improvements, thus capturing a multi-measure approach and stranded energy savings that would have been otherwise overlooked. The CWHMBS Program will target owners of existing multifamily master metered buildings for a high impact of energy savings through water heating. SoCalGas will work with water service agencies to implement the CWHMBS Program whenever feasible, allowing for the program to be evaluated by monitoring two key metrics – energy savings (natural gas) and water savings.

The program objectives for the CWHMBS Program fall into two categories: performance and process. The performance objectives of the CWHMBS Program are objectives that will be used to assess the performance of the HOPPs program to ensure it is meeting expectations and is on a path to succeed. The performance objectives will be carefully tracked and will be reported to the Commission so that SoCalGas can ensure that program progress can be conveyed properly. The process objectives are aimed at ensuring that a strong infrastructure for program implementation and evaluation that could support the scaling up of the CWHMBS Program in the future.

To successfully implement the CWHMBS Program, SoCalGas will work with a third-party implementer to perform the initial market assessment and provide a list of targeted customers. This initial market assessment will be a collaborative effort between SoCalGas and the implementer and will target multifamily property owners by leveraging existing relationships that have been established through SPOCs and lists such as TCAC to outreach to property owners. The program will also work with vendors, installers, and retailers to further promote the program.

## **Statewide Commercial Energy Efficiency Program**

The Statewide Commercial Energy Efficiency (CEE) Program offers California’s commercial customers a statewide-consistent suite of products and services to overcome the market barriers to optimized energy management. The program targets integrated energy management solutions through strategic energy planning support; technical support services, such as facility audits, and calculation and design assistance; and financial support through rebates, incentives, and financing options. Targeted end users include all commercial sub-segments such as distribution warehouses, office buildings, hotels, motels, restaurants, schools, trade schools, municipalities, universities, colleges, hospitals, retail facilities, entertainment centers, and smaller customers that have similar buying characteristics.

The Statewide CEE Program consists of six core statewide subprogram elements, including: Commercial Energy Advisor, Commercial Calculated Incentives, Commercial Deemed Incentives, Continuous Energy Improvement, and Nonresidential HVAC. IOU offerings also include local program elements such as third-party programs, Mid-Stream Water Heating Rebates, Commercial Direct Install, and local government partnerships that have close ties to Business Improvement Districts.

### **SCG3708 Commercial - Energy Advisor**

The Commercial Energy Advisor program brings together services that support customer education and participation in energy efficiency, and energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities.

Customers are reluctant to act and commit to energy efficiency if not persuaded by any other enforcement than simply being energy efficient. Natural gas continues to be an inexpensive conduit of energy and ranks low in customer's equipment upgrade policies. Additionally, natural gas driven equipment has achieved mechanical efficacy that nearly decrepit equipment will continue to perform under the most rigorous of environments.

Natural gas continues to be an inexpensive conduit of energy and ranks low in customer's equipment upgrade policies. Additionally, natural gas driven equipment has achieved mechanical efficacy that very old equipment will continue to perform under the most rigorous of environments. CEA provided a total of 591 audits delivered through multiple channels including SoCalGas account executives.

SoCalGas enhanced CEA in 2017 by not only including audit reports, but also recommendations for participation in a suite of other energy efficiency program. From the myriad of programs that help the business to programs that support their employee. The CEA program will continue to be enhanced and will provide a comprehensive suite of energy efficiency options such as financing and bundling of available demand side management measures.

### **SCG3709 Commercial – Continuous Energy Improvement**

Continuous Energy Improvement (CEI) is a non-resource program designed to make energy an organizational priority for customers by employing change management and process improvement strategies to energy management resulting in energy efficiency projects, and driving savings. Energy Advisors provide strategic energy management coaching, consulting, and training. Program milestones for each engagement include forming an energy management team, creating a baseline model of energy intensity, conducting organizational and ASHRAE Level 1 assessments, creating a prioritized pipeline of measures, setting an energy reduction goal, developing a plan to reach the goal, and adopting a strategic energy management. In 2017, two school district engagements showed notable success in the CEI program. CEI provided the framework that allowed them to make informed decisions in moving forward with project implementation and with Proposition 39 funding. The districts assigned personnel to form energy teams where none existed previously. Both districts are also currently finalizing Strategic Energy Management Plans (SEMPs) that will provide energy management structure

moving forward. Both districts are using energy data tracking to run campus competitions that includes auditing all campuses twice per year. Finally, both are forming Green Teams that will include faculty and students. This ensures that the program will be self-sustaining by the school district.

Energy efficiency measures identified – A valuable component of CEI is the identification of measures resulting in a pipeline of bankable projects. In 2017, 183 projects were identified through ASHRAE Level 1 assessments and data analytics, and prioritized by program participants supported by their Energy Advisor.

The participants completed various projects while in the program including LED lighting, HVAC, and other various equipment upgrades. Because of the CEI program, one school district enacted a process to review the output of their solar systems. They found malfunctions at multiple locations where they weren't getting power to the grid. They are currently addressing the malfunctions.

A survey of the utility account executives indicated positive feedback regarding the program. Account executives cited that the CEI program strengthened the customer/utility relationship, increased customer/utility communication, and increased customer awareness of energy efficiency programs.

The restaurant engagements continued to experience turnover at the Energy Champion positions. Both engagements made efforts to assign co-champions to mitigate this, but there was turnover in those positions as well. The restaurant business environment remained volatile, and it made for especially tight budgets regarding project implementation, and in some cases, participation. After multiple locations were closed, there was a new effort to make the remaining locations more efficient. This allowed for multiple projects to be completed in the 4th quarter.

CEI accomplished many objectives throughout 2017 and there were no notable changes to the CEI program in 2017.

## **SCG3710 Commercial - Calculated Incentives**

The Commercial Calculated Incentives subprogram offers incentives for customized new construction, retrofit and retro-commissioning energy efficiency projects. It also provides comprehensive technical and design assistance. Incentives are paid on the energy savings above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry accepted performance standards, or other baseline energy performance standards. This program also includes the Savings by Design (SBD) subprogram, which serves the commercial new construction segment. SBD promotes integrated design by providing owner incentives, design team incentives, and design assistance to participants who design spaces that perform at least 10% better than Title 24. This program is offered in collaboration with SCE and LADWP in the respective shared territories.

The Calculated Incentives Program also offers the Retro-Commissioning (RCx) subprogram. The goal of the RCx subprogram is to assist customers in reducing their operating costs through

cost-effective energy savings, focused on the identification and implementation of low-cost / no cost operational improvements and on optimizing how existing equipment operates as an integrated system.

SoCalGas continued its collaboration with both SCE and the LADWP in implementing two RCx programs within the utilities' shared service territories. For these SoCalGas collaborations, both LADWP and SCE act as the "lead utility" in implementing these co-funded programs.

As with previous years, the RCx program has experienced reduced uptake in RCx projects due to the implementation of an approach which requires the customer to contract with their own RCx provider for an audit instead of the audit being conducted by IOU-contracted RCx providers. The change in the program business model was intended to encourage customers to move forward with implementing RCx projects, rather than just taking advantage of a "no cost" RCx audit of their facilities, which historically did not always lead to action on the part of customers. The new RCx program approach was designed to increase the success rate in moving projects from the audit phase to the measure-implementation phase. The new model's intent was to place more onus on the RCx Provider as a means of motivating them to take the next step with the customer in implementing measures, thereby increasing the conversion rate of RCx audits to the actual implementation of RCx energy saving measures; however, there continues to be a notable decline in RCx activity using this business model.

The Calculated Incentive subprogram is as complex as the projects it attempts to influence, due to the unique nature of the projects and the particular needs of the segment it is attempting to serve. The increasing complexity of the program found to adversely impact participation. For the overall Calculated Incentive subprogram, SoCalGas participated in the *ex ante* parallel review and incorporated lessons learned into program design.

SoCalGas provided training and performed quality control procedures in order to screen out ineligible projects. Continuous review was performed to improve impact methods and models through review of evaluation results, consideration of industry best practices, and collaboration with the CPUC *ex ante* review team.

## **SCG3711 Commercial - Deemed Incentives**

The Commercial Deemed Incentives Subprogram offers rebates to customers in an easy to use mechanism to offset the cost of off-the-shelf energy saving equipment to cost-effectively subsidize and encourage adoption of mass market efficiency measures through fixed incentive amounts per unit/measure.

The program also offers distributor and manufacturer incentives that aims at eliminating incremental initial cost to the customer via a midstream approach. The program's objective is to assist SoCalGas customers in saving money and energy. The program at the same time educates and motivates SoCalGas customers' plumbers and contractors about the benefits of participating in energy efficiency rebate programs. The primary goal of the Midstream Commercial Water Heater Distributor Rebate program is to increase water heater purchases by having distributors stock and sell high efficient water heaters; have equipment readily available for our SoCalGas

customers at a discounted price; and provide the distributor a rebate directly to them for their efforts.

In 2017, marketing outreach for both food service equipment vendors as well as non-food service equipment in conjunction with SoCalGas' TradePro directory continues to contribute to increased program participation. Food service equipment measures contributed to half of the energy savings achieved.

SoCalGas was able coordinate discounts for bulk purchases of water heaters over 90% efficiency rating in outlying service areas due to the Midstream Commercial Water Heater Rebate Program solid links between the partnering distributors and SoCalGas representatives. The success of the Midstream programs is by the achievements of continued strong relationships between the customers, plumbers, contractors, SoCalGas representatives, and distributors as well being consistent with our outreach and marketing efforts.

The commercial dishwasher and gas modulating valve were added to the 2017 offerings.

The Commercial Deemed program exceeded projected 2017 savings goal objectives due to the combination of the Midstream Commercial Water Heater Rebate Program and to the marketing efforts of the food service outreach as well as the activities of Trade Pro directory. The therm exchange mechanism partnership with SCE was also a valuable savings contributor.

## **SCG3712 Commercial – Non-Residential HVAC**

The Commercial HVAC subprogram delivers a comprehensive set of midstream and upstream strategies that builds on existing programmatic, educational, and marketing efforts and leverages relationships within the HVAC industry to transform the market towards a sustainable, quality driven market.

Upstream HVAC Equipment Incentive offers incentives to distributors who sell qualifying high-efficiency commercial HVAC equipment to increase the stocking and promotion of such equipment.

Commercial Quality Installation (C-QI) addresses commercial installation practices to ensure that equipment is installed and commissioned per industry standards and also attempts to minimize losses and inefficiencies that can exist at key sub-system level points below the HVAC unit itself. The Commercial HVAC Quality Installation Contractor Education and Customer Awareness programs were based on ACCA standards. ACCA staff and other industry stakeholders in the Western HVAC Performance Alliance (WHPA) collaborated to validate the market transformation groundwork being laid and ensure that quality installation standards could be verified in the field in a sustainable fashion for Commercial HVAC.

Commercial Quality Maintenance (C-QM) addresses commercial maintenance practices to ensure that equipment is serviced per industry standards and that the maintenance efforts support the long-term strategic goal of transforming the trade from commodity-based to quality-based. C-

QM promotes increased quality levels in HVAC maintenance through the use of ACCA standards.

Throughout 2017, SoCalGas worked with the Statewide IOU HVAC program teams individually and through the WHPA on improving elements of the commercial HVAC programs including the development of statewide CQM work papers and coordinating efforts on WE&T and inspection requirements further reducing the administrative burden.

The collaboration of IOUs across multiple WHPA committees plotted a successful course to meet the HVAC Long Term Strategic Plan and market transformation goals in 2017. Finally, there has been progress made ensuring that there is seamless alignment with Assembly Bill 802.

In order to adapt to market forces, regulatory requirements and the changing energy efficiency landscape, SoCalGas continued to evaluate and adjust elements of the program such as introducing tiers to further promote higher efficiency units. SoCalGas worked in conjunction with the IOUs statewide team to review and align incentives for consistency and to achieve continuity across program offerings. A key deliverable identified was the need to develop a matrix to integrate program design, engineering, Evaluation Measurement and Verification and WE&T.

## **SCG3805 Commercial - Direct Install Program**

The Commercial Direct Install sub-program delivers no-cost or low-cost energy efficiency equipment retrofits to small and medium-sized commercial businesses throughout SoCalGas' service territory. The retrofits are to be completed through installation contractors to reduce energy and water usage, and result in resource savings for public and private commercial customers. The program targets these customers in a staged delivery approach that provides program services in specific geographic areas allowing for a more concentrated, directed, and comprehensive program.

SoCalGas partnered with SCE's Commercial Direct Install subprograms in joint service territories to leverage existing infrastructure to layer on natural gas energy efficiency measures to ensure comprehensive energy efficiency solutions for customers. SoCalGas worked with SCE to have their existing direct install contractor(s) to expand what is offered to include natural gas efficiency measures.

SoCalGas partnered with an energy solution contractor to implement Commercial Direct Install program in service territories. The contractor installs no cost measures and co-pay natural gas measures.

SoCalGas also partnered with another existing publicly-owned municipal utility (MOU) Commercial Direct Install program in joint service territories to leverage existing infrastructures to layer on natural gas energy efficiency measures to ensure comprehensive demand-side management solutions for customers. SoCalGas partnered with Los Angeles Department of Water and Power (LADWP) to jointly deliver this program.

The program objective is to capture unlimited energy savings at each medium sized business (SMB) as contractors are incentivized to install the easiest, lowest, or no cost measures available. Provide ways to reduce the business energy costs, save money, minimize the rebate process by installing joint utility measures at each medium sized business (SMB) with a three-step sign-up process. Along with educating a customer about other offered rebate and incentive programs no matter who their public utility services provider is.

## **SCG3807 Commercial – HOPPS-CRR Program**

The SoCalGas Commercial Restaurant Retrofit (CRR) Program, authorized through the High Opportunity Projects and Programs (HOPPs) process, targets the hard-to-reach commercial foodservice sector. The program is designed as a comprehensive, whole-building retrofit program that proposes to address stranded therm savings. Specifically, the restaurant provides enhanced rebates and performance incentives, as well as referrals for rebate programs through partnering with electric and water utilities, for upgrades across multiple upgrade categories. These upgrades include but are not limited to kitchen equipment, building envelope measures, water-saving measures and lighting. To capture stranded therm savings, the program uses the Normalized Metered Energy Consumption (NMEC) process to calculate savings, enabling the program administrator to capture savings at the existing condition baseline. Using the customer-facing name “Restaurant Refresh,” the program targets restaurant owners with education, technical support, on-site energy assessments, enhanced rebates and ‘performance’ incentives based on one-year gas savings measured through the NMEC process.

The program is one of the first NMEC programs launch in the marketplace, and the SoCalGas team has successfully developed processes and procedures to launch similar programs. With implementer contracts in place, the team prepared for launch during summer 2017, working with the CPUC to finalize the Program Implementation Plan and Operations Manual, as well as to prepare Quality Assurance and M&V guidelines. Significant effort has been made to understand the data capture needs, participant eligibility requirements, data modeling requirements and implementation, and customer-facing implementation and marketing. For example, at the time of the Advice Letter submittal for this program, available data for NMEC modeling came in the form of monthly data; with actual participants granting access to hourly interval data, the team has been able to develop more accurate energy models that enable improved certainty in modeling energy savings. This accomplishment paves the way for future NMEC programs, thus utilizing accurate, real-time smart meter data to capture energy savings.

The program formally went live for customers on October 24, 2017, at the SoCalGas Foodservice Equipment Expo. Both before and since launch, the program has developed inter-utility collaborations with the Metropolitan Water District (MWD), SCE and Los Angeles Department of Water and Power (LADWP). Within the partner teams and internally within SoCalGas, account executives have strengthened their relationships with commercial foodservice customers, which have previously been underrepresented in Energy Efficiency program participation.

In the 4<sup>th</sup> Quarter of 2017, the program focused on outreach to a highly targeted list of eligible customers, and recruited two initial participants for a no-cost energy assessment. To these

customers, CRR has provided highly valuable information on energy and cost savings within their own operations, providing insight and education that may not have been readily accessible to them previously. As CRR participation increases in 2018, the relative impact of such customer engagement will also grow.

As a complex pilot program, CRR has faced some challenges. Program launch occurred later than expected due to delays in finalizing implementer contracts and in coordination with regulatory partners. Additionally, outreach to end-users has proven very difficult, in part due to the nature of the industry (restaurants are notoriously time-constrained, generally unaware of utility assistance programs, and well-guarded from solicitation at a corporate level). These barriers are shaped by program eligibility limitations imposed in order to maintain NMEC data integrity and achieve sufficient energy savings. The program is working to address these challenges in 2018.

## **Statewide Industrial Energy Efficiency Program**

The Statewide Industrial Energy Efficiency (IEE) Program provides services to improve the energy efficiency of industrial facilities in California. The primary services offered to industrial customers include:

- Energy audits covering EE and demand management opportunities;
- Technical assistance in measure specification, procurement, and project management;
- Post-installation inspection and analysis to verify performance;
- Continuous energy improvement consultation; and
- Financial incentives and project financing for installed measures.

Financial incentives are based on deemed energy savings by per unit of equipment and calculated energy savings by per unit of energy.

The Statewide IEE Program includes four statewide subprogram elements that together comprise the core product and service offerings. Each IOU offers local programs that complement and enhance the core offerings in their region. The local portfolio mix of SoCalGas is specifically designed to enhance energy efficiency and DSM opportunities for industrial customers, including financial solutions.

## **SCG3713 Industrial - Energy Advisor**

The Industrial Energy Advisor program brings together services that support customer education and participation in energy efficiency, and energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities.

Customers are reluctant to act and commit to energy efficiency if not persuaded by any other enforcement than simply being energy efficient. Although air quality agencies provide a beneficial support to equipment upgrade, the proportionality between combustion efficiency and energy efficiency prevent the choosing an energy efficient option. Natural gas continues to be an



inexpensive conduit of energy and ranks low in customer's equipment upgrade policies. Additionally, natural gas driven equipment has achieved mechanical efficacy that nearly decrepit equipment will continue to perform under the most rigorous of environments.

Natural gas continues to be an inexpensive conduit of energy and ranks low in customer's equipment upgrade policies. Additionally, natural gas driven equipment has achieved mechanical efficacy that very old equipment will continue to perform under the most rigorous of environments. IEA provided a total of 268 audits delivered through multiple channels including SoCalGas account executives.

SoCalGas enhanced IEA in 2017 by not only including audit reports, but also recommendations for participation in a suite of other energy efficiency program. From the myriad of programs that help the business to programs that support their employee. The IEA program will continue to be enhanced and will provide a comprehensive suite of energy efficiency options such as financing and bundling of available demand side management measures.

## **SCG3714 Industrial – Continuous Energy Improvement**

Industrial Continuous Energy Improvement (CEI) is a consultative service to assist industrial customers to engage in long-term, strategic energy planning. CEI helps customers better manage energy using a comprehensive, longer term approach that addresses both capital and behavioral / operational improvement opportunities and creates sustainable practices through a high-level commitment from executive-level management.

Customer assistance services under CEI consist of the following six steps: 1.) Commitment by management with reinforcement, 2.) Organizational and operational assessments of current operations, 3.) Strategic planning including resource commitment and setting energy improvement goals, 4.) Implementation of improvements, 5.) Evaluation of progress towards goals, and 6.) Modification of plans and goals as necessary. These services include establishing baseline energy use, identification of energy savings opportunities, engaging the workforce, tracking of monthly energy use, and quantifying energy savings.

The industrial CEI program has helped customers develop strategic energy plans with energy savings goals, form energy teams and engage employees in behavioral change, identify energy savings opportunities, implement energy savings measures, and quantify energy savings. Key benefits of the CEI program are the long-term planning leading to reduced energy use and employee engagement. In addition, CEI has helped customers adopt continuous improvement in their manufacturing processes leading to increased productivity, improved product quality, and reduced operating costs.

CEI has also benefited customer participation in utility energy efficiency programs by providing a channel for utilities, through account executive engagement, to develop a long-term relationship with customers and a mechanism to recognize energy savings for behavior, retrofit, and operational (BRO) energy saving measures. CEI has provided documentation of program influence on customers' decisions to implement energy savings measures and improved persistence of energy savings.

Beginning in 2013, sixteen industrial customers have enrolled in the current CEI program. Eleven customers completed the program while five customers were off-ramped. The reasons customers were off-ramped included severe down-turns in business (one customer closed entirely), new ownership, and a major reorganization of business operations.

During 2017, CEI engagements were completed with the remaining customers, with one of the customers off-ramped due to major management re-organization. Selected highlights: One customer achieved 21% savings over 4 years of CEI participation, exceeding a savings goal of 15%. A second customer achieved 15% electricity and 21% natural gas savings. As a result, management adopted a policy to implement all energy savings measures with payback less than 6 years; a significant change from past management practice. One stand-out customer joined the Department of Energy's Better Plants Challenge, and adopted the long-term goal of reducing energy intensity by 25% in 10 years.

Examples of business issues that can impact program participation include changes in ownership, manufacturing processes, and product mix. Also, many industrial customers have a short-term horizon for business planning that can limit their ability to implement a long-term energy management program

The complexity and variability of industrial processes complicates energy tracking and the ability to precisely quantify the impact of improvements on energy savings, unlike facilities with consistent energy use patterns such as commercial buildings. Operating data for all factors impacting energy use are not monitored at many facilities. This lack of data can make it difficult to normalize energy use for changes in production variables. Customers typically have limited resources to manage energy use and to monitor changes in production operations for correlation and decisions on energy. There is a need for energy sub-metering and improved process monitoring automation to facilitate the collection of energy and production variables that will facilitate monitoring of energy use and determining energy savings.

Measurement and verification consulting services was continued for two CEI customers after the initial 2-year engagement. The intent was to assist customers in maintaining their CEI activities and to monitor customers' performance, extended monitoring of customers' CEI activities using "light touch."

CEI accomplished many objectives throughout 2017 and geared up for the transition to strategic energy management (SEM).

## **SCG3715 Industrial - Calculated Incentives**

The Industrial Calculated Incentives subprogram offers incentives for customized retrofit EE projects. The program features incentives based on calculated energy savings for measures installed as recommended by comprehensive technical and design assistance for customized and integrated energy efficiency/demand response initiatives in new construction and retrofit projects. SoCalGas continues to use a Post Installation Review to "true-up" savings for custom projects.

Heat recovery and boiler measure type projects continue to be large contributors of energy savings for the Calculated Incentives subprogram. On-going activities such as energy audits of facilities, walk through surveys, and technical assistance for this sector resulted in recommendations for EE projects with calculations/estimates of energy savings for exceeding industry standard practice baselines.

The Calculated Incentive subprogram is as complex as the projects it attempts to influence, due to the unique nature of the projects and the particular needs of the segment it is attempting to serve. The increasing complexity of the program found to adversely impact participation. For the overall Calculated Incentive subprogram, SoCalGas participated in the *ex ante* parallel review and incorporated lessons learned into program design.

SoCalGas provided training and performed quality control procedures in order to screen out ineligible projects. Continuous review was performed to improve impact methods and models through review of evaluation results, consideration of industry best practices, and collaboration with the CPUC *ex ante* review team.

### **SCG3716 Industrial - Deemed Incentives**

The Statewide Industrial Deemed Energy Efficiency subprogram provides services to improve the energy efficiency of industrial facilities in California, including offering financial incentives based on deemed energy savings. The energy savings are deemed for measures installed. The program is part of a suite of programs within the Statewide Industrial Energy Efficiency Program. It also features rebates per unit measure for installed energy-saving projects and provides the IOU, equipment vendors, and customers an easy-to-use mechanism to cost effectively subsidize and encourage adoption of mass market efficiency measures through fixed incentive amounts. The subprogram also offers rebates to customers in an easy-to-use manner to offset the cost of off-the-shelf energy saving equipment.

The Industrial Deemed Energy Efficiency Program directly addressed key market factors that led to higher energy costs for California businesses. By providing a menu of prescribed common measures, this simplified the process of reviewing project proposals and provided a per EE measure rebate that reduced the cost of retrofitting outdated and inefficient equipment. This element made it attractive for customers to spend money in the short run to achieve lower energy costs in the long run.

Using itemized EE measures was intended to overcome barriers that prevent many business customers from adopting EE alternatives. The barriers were addressed by itemizing common EE measures and rebates, stimulating the supply of high efficiency equipment and products (through higher demand), and offering rebates that help offset higher start-up and down payment expenses for energy efficient retrofits. Through a favorable process evaluation, the pipe insulation measure expanded its offering to include higher incentives for larger pipe for 2018.

Pipe and tank insulation and steam process boiler measures were the focus for deemed energy savings in 2017 for the industrial sector, however, the program fell slightly short of the projected 2017 savings goal.

## **Statewide Agricultural Energy Efficiency Program**

The Statewide Agricultural Energy Efficiency (AEE) Program facilitates the delivery of integrated energy management solutions to California's agricultural customers. The program offers a suite of products and services, such as strategic energy planning support, technical support services, facility audits, pump tests, calculation/design assistance, financing options, and financial support through rebates and incentives. In addition, the program adopts and supports the strategies and actions of the Agricultural and Industrial chapters of the CLTEESP.

The Statewide AEE Program targets end-users such as irrigated agricultural growers (crops, fruits, vegetable, and nuts), greenhouses, post-harvest processors (ginners, nut hullers, and associated refrigerated warehouses), and dairies. Due to North American Industry Classification System (NAICS) designations, food processors have traditionally received IOU services through the Industrial program offering. However, there are those facilities with on-site processing that are integrated with growers and their products, as is the case with some fruit and vegetable processors (canners, dryers, and freezers), prepared food manufacturers, wineries, and water distribution customers that may be addressed by this program's offerings. To address the potential in these markets, the Statewide Agricultural Energy Efficiency Program offers four subprograms.

### **SCG3717 Agricultural - Energy Advisor**

The Agricultural Energy Advisor (AEA) program brings together services that support customer education and participation in energy efficiency, and energy reducing opportunities and benefits, along with awareness of greenhouse gas and water conservation activities.

Customers are reluctant to act and commit to energy efficiency if not persuaded by any other enforcement than simply being energy efficient. Although air quality agencies provide a beneficial support to equipment upgrade, the proportionality between combustion efficiency and energy efficiency prevent the choosing an energy efficient option. The seasonal application of natural gas equipment for the agricultural sector provides a barrier on rate of return, and timing of upgrades while adhering to program and CPUC guidelines. Support and flexibility from governing bodies would help engage the agricultural sector by providing leniency on custom project implementation, and extending their respective industry standard practice implementation.

Natural gas continues to be an inexpensive conduit of energy and ranks low in customer's equipment upgrade policies. Additionally, natural gas driven equipment has achieved mechanical efficacy that very old equipment will continue to perform under the most rigorous of environments. AEA provided a total of 11 audits delivered through multiple channels including SoCalGas account executives.

SoCalGas enhanced AEA in 2017 by not only including audit reports, but also recommendations for participation in a suite of other energy efficiency program. From the myriad of programs that help the business to programs that support their employee. The AEA program will continue to be enhanced and will provide a comprehensive suite of energy efficiency options such as financing and bundling of available demand side management measures.

### **SCG3718 Agricultural - Continuous Energy Improvement**

The Agricultural Continuous Energy Improvement (CEI) subprogram is a consultative service that is aimed at helping agricultural customers engage in long-term, strategic energy planning. CEI helps customers better manage energy using a comprehensive approach that addresses both technical and management improvement opportunities and creates sustainable practices through a high-level commitment from executive-level management.

Siting the extended length of the CEI engagement and the required resource commitment necessary to benefit from this type of program, there were no new agricultural customers who expressed an interest in enrolling in the program for 2017.

More effective outreach methods in the agricultural customer sector continue to be evaluated for future program enrollment. It has been observed that farming cooperatives represent a potential opportunity for outreach and for sharing of best practices related to long-term strategic energy management.

### **SCG3719 Agricultural - Calculated Incentives**

The Agricultural Calculated Incentive subprogram offers incentives for customized retrofit and retro-commissioning energy efficiency projects. The program also provides comprehensive technical and design assistance.

The Calculated Incentive subprogram is as complex as the projects it attempts to influence, due to the unique nature of the projects and the particular needs of the segment it is attempting to serve. The continued complexity of the program process was found to adversely impact participation. For the overall Calculated Incentive subprogram, SoCalGas participated in the *ex ante* review process and incorporated lessons learned into program design. No significant changes were made in 2017 but overall program participation is moving towards a downward trajectory.

### **SCG3720 Agricultural - Deemed Incentives**

The Agricultural Deemed Incentive Subprogram offers rebates to customers in an easy-to-use mechanism to offset the cost of off-the-shelf energy saving equipment.

The program kept focus on replacing existing energy efficient natural gas equipment, and encouraging customers to move up to higher-than-standard efficiency models when purchasing additional equipment. The deemed rebate offering provided utility representatives, equipment vendors, and customers an easy-to-use mechanism to cost-effectively subsidize and encourage

adoption of mass market efficiency measures through fixed incentive amounts per unit or measure. The program also coordinated its activities with SoCalGas account executives and Commercial and Industrial service technicians to present energy efficiency program details to their customers.

The program removed internal incentive caps for greenhouse curtains to encourage greater participation. As a result, the program contributes its accomplishments to the successful delivery of the greenhouse curtain measure.

The program exceeded the projected 2017 savings goal objectives. Overall the deemed measure selection is small for this customer-base with much of the selection being based on electric water pumping. The most popular incentive measures in the program were the Greenhouse Heat Curtain and Greenhouse Infrared Film. SoCalGas continued to investigate possible deemed options for gas-powered engines.

## **Statewide Emerging Technologies Program**

The statewide Emerging Technologies Program (ETP) supports the California Investor Owned Utility (IOU) Energy Efficiency (EE) programs and helps California meet its energy reduction goals by identifying and screening potential technologies, assessing them to validate performance and customer acceptance, performing in-situ demonstrations and publishing the results of these activities. Well performing technology is recommended for inclusion in IOU customer education and rebate programs for wide use by utility customers.

ETP activities are implemented through three subprograms:

- The Technology Development Support (TDS) subprogram, which seeks to increase technology supply by educating technology developers on technical and programmatic requirements of rebate measures.
- The Technology Assessment Support (TAS) subprogram, which identifies and assesses the actual performance of emerging EE technologies with the goal of increasing the number of measures offered by EE programs.
- The Technology Introduction Support (TIS) subprogram, which helps introduce existing energy-saving technologies that are not already widely embraced by the consumers through demonstration showcases, scaled field demonstrations, and market and behavioral studies, which expose end-users to these technologies in real-world settings. ETP may also use third parties to deploy technologies on a limited scale in the market.

ETP uses a number of tactics to achieve the objectives of its three subprograms. A non-exhaustive list of the key tactics are described in the following sub-program discussion where each tactic may be used to achieve any of the subprogram objectives.

SoCalGas encountered different barriers and problems in the implementation of the Emerging Technologies Sub-Programs which included changing expectations for technology from single technology assessments to integrated “holistic” systems, stringent codes & standards development, limited availability of quality customer sites & customer participation as well as technology availability and affordability to customers. Additionally, the cost effectiveness of

many emerging technologies is sometimes still a challenge for acceptance into customer programs, and the current zero-net energy definition creates difficulty in determining the merit of combined heat and power (CHP) or clean gas technologies. Further, allocation of ETP budget to three subprograms at beginning of cycle or year often creates a mismatch between available funds and actual project opportunities as they arise. This leads to increased use of administrative resources to manage and explain fund shifts between subprograms.

ETP also collaborated with the Portfolio of the Future, which resulted in additional progress overall on EE measurement development. ETP continues to work through the challenges of stringent codes & standards development, technology availability and affordability to customers, as well as the change in paradigm from single technology assessments to integrated “holistic” systems. ETP started and tracked 21 new projects in 2017, comprised of 10 new concepts or technologies and continuing other projects/technologies into later phases.

## **SCG3721 Emerging Technologies – Technology Development Support**

The Technology Development Support (TDS) subprogram provides assistance to private industry in the development or improvement of technologies. Although product development is the domain of private industry, there are opportunities where IOUs can undertake targeted, cost-effective activities that provide value in support of private industry product development efforts. ETP support and guidance can reduce innovator uncertainties and allow them to move forward with promising products. ETP looks for and solicits opportunities to support EE product development, i.e. the process of taking an early-stage technology or concept and transforming it into a saleable product.

ETP uses several activities to support technology developers including:

- Participating in industry, academic and government agency organizations that are also focused on EE technology development and delivery and using leads gained there to work with the developers directly or leveraged with the organizations.
- Periodically participating in a Technology Resource Incubator Outreach (TRIO) symposium, which provides support and networking for EE and demand response (DR) entrepreneurs, investors, and universities with the goal of providing participants the necessary perspective and tools to work with IOUs and ultimately introduce new EE measures to the marketplace.
- Participating in market and behavioral studies to investigate customer needs in targeted sectors and estimate customer reaction to new technologies and solutions. The key activities in which ETP engages is in product efficiency and functionality testing, as well as communication and collaboration with industries. These activities are often conducted on an ad hoc basis, as windows of opportunity arise.

SoCalGas ETP’s TDS strategies employed and activities conducted in 2017 include:

- Assisting a developer of a compact gas flowmeter with telemetry intended for cost-effective appliance gas use measurement for potential energy savings and control applications, including collaborating with SoCalGas in-house gas metering experts and Cal Poly Pomona engineering faculty. The flowmeter received CSA certification in 2016

and began commercialization in 2017. SoCalGas ET is further testing the product for accuracy and usability in 2018.

- Continuing funding and support in developing and fitting a compact furnace with low NOx burner, suitable for zero-net energy (ZNE) and tight homes in California. A field demonstration with co-funding by the CEC is planned to begin in 2018.
- Collaborating with the Emerging Technologies Coordinating Council (ETCC) on various program activities including: a TRIO Symposium and Roundtable event hosted by SCE, a First Look West (FLoW) upstream incubator review and judging event and roundtable hosted at Caltech, a Rocket Fund upstream incubator finalist interview meeting hosted by SCE that included an ET Open Forum on early stage technologies, and two CEC EPIC/Public Interest Energy Research (PIER)-ETP alignment meeting hosted at the CEC and SDG&E.
- Collaborated with peer members and processed technology ideas submitted to the ETCC for screening and collaboration.
- Collaborating with industry directly and through industry and academic partners, such as, but not limited to, the UC Davis Western Cooling Efficiency Center (WCEC), UC Davis Center for Water-Energy Efficiency (CWEE), the Gas Technology Institute (GTI), Electric Power Research Institute (EPRI), Energy Solutions Center (ESC), American Council for an Energy Efficient Economy (ACEEE), and Consortium for Energy Efficiency (CEE), in order to provide targeted support for technology development, identify new opportunities and find collaboration partners.
- Collaborating with and providing technical advice to innovators from universities and other research institutions such as the CalTech/Department of Energy (DOE) FloW program and the associated Rocket Fund, whose goal is to provide funding and entrepreneurial education for academic innovators starting cleantech companies.
- Participating and engaging with industry stakeholders in CEC's natural gas PIER solicitations and projects. Collaborated with external parties and SoCalGas EE program stakeholders in developing RFP responses completing commitment letters to support the achievement of CEC goals and contributed to winning the subsequent awards. Continued project development and support of two ongoing CEC co-funded projects including a demonstration of a low NOx compact furnace for CA tight home construction and ZNE homes.
- Continuing an active partnership with the Los Angeles Department of Water & Power (LADWP) in a strategic approach to integrate and leverage electric and gas utility efforts to achieve CA's energy efficiency goals in the city of Los Angeles. LADWP and SoCalGas collaborated on the post-construction monitoring and verification, data sharing, and outreach of the Playa Vista near-ZNE demonstration project, integrating combined heat and power (CHP), photo-voltaic (PV) and EE measures, and are collaborating on participation with the Rocket Fund.

## **SCG3722 Emerging Technologies – Technology Assessment Support**

Through the Technology Assessment Support subprogram (TAS), ETP evaluates energy efficient measures that are new to the market (or underutilized for a given application) for performance claims and overall effectiveness in reducing energy consumption. A key objective of these assessments is the adoption of new measures into SCG's EE portfolio, where assessment data is



used to develop the required workpapers to introduce new EE measures. Historically, technology assessment is a core strength of ETP and has been critical to EE program success. ETP assessments may develop and utilize data/information from different sources including: in situ testing (customer or other field sites), laboratory testing, or paper studies used to support assessment findings.

In 2017, SoCalGas' ETP employed the following strategies and select activities for the TAS subprogram:

- Transferring assessment results to, participating with and providing guidance and input to Customer Program's Innovation Now! stage-gate process for work paper development on several potential measures which include advanced thermostats, horizontal drain heat recovery, shower data management devices with communication capabilities, and continuing support of studies for the implementation instructions and software modeling of the dual setpoint boiler controllers for combination service.
- Collaborating with ETCC utilities and out-of-state utilities to identify suitable assessment candidates.
- Using the statewide database to report project activities on a quarterly basis, and employing a subset of the database to share with the Consortium of Energy Efficiency Emerging Technology Catalog (CEE ETC) working group to exchange ideas and to leverage co-funding and collaboration opportunities.
- Participating in and supporting four ET quarterly meetings held by the ETCC, focused on agricultural, commercial, residential, and data center topics, respectively.
- Participating in and supporting an ET Open Forum on market ready technologies hosted by PG&E. The Open Forum is an opportunity for developers of new technologies to highlight their products to the ETP.
- Researching and evaluating test reports on a tub-spout water stop technology that were produced by other utilities that were sufficient for SoCalGas' new measure team to use for workpaper development without the need for additional testing by SoCalGas ET.
- Managing CEC PIER funding for an ongoing low-income housing EE retrofit study in cooperation with EPRI, LINC, and SCE. This project was selected for presentation in a CEC sponsored webinar on "ZNE technologies and progress" and later won an EPRI Power Delivery and Utilization award.
- Completing a CEC PIER-funded deep retrofit project for commercial kitchen water heating using multiple emerging technologies to assess integrated benefits including energy and operational savings.
- Managing a CEC PIER funded project to showcase commercial kitchen cookline equipment to assess integrated benefits, including energy and operational savings, led by Fisher-Nickel Inc. under Frontier Energy and GTI.
- Starting a CEC PIER funded project to demonstrate an industrial low-temperature heat recovery system using an Organic Rankine Cycle (ORC), led by EPRI.
- Managing a CEC funded project to understand and improve solar thermal water heating and cost effectiveness, led by UC Davis.
- Starting a lab testing project for venture type steam traps with GTI, cofounded by Nicor Gas.

## **SCG3723 Emerging Technologies - Technology Introduction Support**

Technology Introduction Support (TIS) subprogram supports the market introduction of new and existing, but underutilized, technologies to the market, on a limited scale, through several activities, including:

- Scaled Field Placements (SFP), which consist of placing a measure at a number of customer sites as a key step to gain market traction and feedback. Typically, these measures have already undergone an assessment or similar evaluation to reduce risk of failure. Monitoring activities on each scaled field placement are determined as appropriate.
- Demonstration and Showcase (DS) projects, designed to provide key stakeholders the opportunity to "kick the tires" on proven combinations of measures that advance California Long Term Energy Efficiency Strategic Plan (CLTEESP) and ZNE goals. DS projects introduce measures to stakeholders at a system level and in real-world settings. Potential customers gain knowledge about applications and installations, and the projects help create broader public and technical community exposure and increased market knowledge. Key attributes of DS projects are that they are open to stakeholders and highlight a systems approach rather than an individual technology approach.
- Market and behavioral studies are designed to perform targeted research on customer behavior, decision making, and market behavior to gain a qualitative and quantitative understanding of customer perceptions and acceptance of new measures and of market readiness and the potential for the new measures.
- TRIP (Technology Resource Innovation Program) solicits third-party projects (of up to \$300,000) to deploy emerging technologies on a limited scale to the market.

In 2017, SoCalGas' ETP employed the following strategies and select activities for the TIS subprogram:

- SoCalGas ET, on behalf of the ETCC utilities, successfully managed and executed the Emerging Technologies Summit, a 2.5-day conference with national attention and attendance with more than 150 speakers and over 400 participants.
- Published a technical paper on a commercial near-ZNE demonstration project at the Playa Vista and presented in a national conference, the 2017 West Coast Energy Management Congress.
- Performing primary and secondary research, as necessary, to gain market insight.
- Identifying and screening several technologies to support the AB 793 initiative and used in the development of proposed action plans.
- Engaging with the ETCC by participating in quarterly meetings and presentations, advising on website management and other technology implementation support activities.

## **SCG3806 Water Advanced Meter Infrastructure Pilot**

The Water Energy Nexus (WEN) Shared Network Advanced Metering Infrastructure (AMI) Pilots<sup>3</sup> have been established to develop and refine the identification of potential hot water leaks based on analytics of both gas and combined water and gas usage data, and to evaluate the

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<sup>3</sup> D.15-09-023, Advice No. 5014, Advice No.4992-A.

potential benefits associated with hot water leak detection and resolution. The WEN Shared Network AMI Pilots allow for water utilities to leverage the existing SoCalGas Advanced Meter Infrastructure (AMI) network to collect and transmit hourly water usage data, which is used in the analytics effort. Two separate Commission-regulated water utilities, San Gabriel Valley Water Company and California American Water, are participating in this pilot program, and a 3<sup>rd</sup> party analytics vendor, Valor Water Analytics, is conducting the combined water-gas analytics.

In 2017, approximately 1,822 water MTUs were installed out of total target of 1,850 and successfully transmitted data over the SoCalGas Advanced Meter Network with an average reception success rate (RSR) of 98% or better. The analytics period for the California American Water WEN AMI Pilot kicked off in Q1 of 2017 and was completed on February 28, 2018. This pilot also successfully utilized hourly water and gas data for the identification and evaluation of potential hot water leaks, identifying 9 potential hot water and anomalous gas usage in 2017. The analytics portion of the AMI WEN Pilot for San Gabriel Valley Water Company was completed in Q3 of 2017. The AMI WEN Pilot Final report will be available in 2018.

The AMI WEN Pilot encountered a challenge with the address matching activity that was required for both San Gabriel Valley Water Company and California American Water pilots since there was no standard facility address format across each of the participating utilities. This activity required additional manual analysis that resulted in a short delay to kick-off the AMI WEN Pilot.

The WEN AMI Pilots have been driving to achieve the following program goals: (1) Network piggybacking, (2) Combined utility data analytics for hot water leak detection, and (3) Determining energy savings from reduced water loss. The first goal was met, as both WEN Shared AMI Pilot participants have deployed their pilot water MTUs and successfully transmitted data over the SoCalGas AMI Network. The second goal was also met, as both water utilities have been able to successfully perform combined utility data analytics for the identification and evaluation of potential hot water leaks. Finally, both of the WEN AMI Pilot participants are in the process of completing the analytics efforts for the third goal in 2018.

## **Statewide Codes & Standards Program**

The Statewide Codes and Standards (C&S) Program saves energy on behalf of ratepayers by influencing regulatory bodies such as the California Energy Commission and the U.S. Department of Energy (DOE) to strengthen energy efficiency regulations. The Program conducts efforts to increase compliance with existing C&S regulations to ensure that the State realizes the savings from new codes and standards, and supports local governments that include reach codes as a climate strategy. The Program also conducts planning and coordination with Investor Owned Utilities statewide as well as with local utilities to optimize collaboration, and code readiness activities to prepare for future codes.

Program advocacy and compliance improvement activities extend to virtually all buildings and appliances sold in California in support of the State's ambitious climate and energy goals. Support for state and federal building codes and appliances standards continues to move California towards residential zero net energy (ZNE) by 2020, non-residential ZNE by 2030, and

the statewide goal set forth by Senate Bill 350 (SB 350) to reduce building energy usage by 50 percent.

Key Initiatives include:

- Advocacy for new or updated sections of California’s Building Energy Efficiency Standards and related ASHRAE activities
- Advocacy for new Title 20 and DOE appliance standards, and related ENERGY STAR® activities
- Training, tools, and resources to support compliance with existing codes and standards
- Development of new cost effectiveness studies to support local government reach codes
- Long term planning and coordination activities to optimize work across California’s utilities

In 2017, SoCalGas lead the Title 20 CASE proposal for tub-spout diverters and submitted the proposal on behalf of the C&S Program team in December 2017. This effort included interviews with manufacturers, test labs, and environmental advocates; participation in CEC public meetings; research into the performance, technical features, and cost of tub spout diverters; and statewide savings calculations. Additionally, SoCalGas led the Title 24 CASE Report for residential drain water heat recovery and completed the proposal on behalf of the C&S Program team in July 2017. This effort included multiple interviews, product research, collaboration with stakeholders, and per-unit savings calculations. Ongoing efforts include reviewing stakeholder comments, reviewing CEC proposed code language, and participating in CEC public meetings for the 2019 Title 24, Part 6 standards.

The SoCalGas Compliance Enhancement team lead the design, development and implementation of a series of Title 24 Part 6 education and training activity targeting commercial architects and architectural firms throughout Southern California. Through a mutual agreement with local chapters of the American Institute of Architects (AIA) the training activity hosted a total 20 trainings with over 481 attendees.

## **SCG3724 Codes & Standards - Building Codes & Compliance Advocacy**

The Building Codes Advocacy subprogram primarily targets improvements to California’s Building Energy Efficiency Standards (Title 24, Part 6). Title 24, Part 6 is updated by the Energy Commission on a triannual cycle. The subprogram also pursues changes to national building codes that impact California through ASHRAE and other national and international code-setting bodies. Advocacy activities include, but are not limited to, development of code enhancement proposals and participation in public rulemaking processes. The program may coordinate with or intervene in ratings organizations referenced in Title 24 (e.g., the National Fenestration Rating Council and the Cool Roof Rating Council) for both Part 6 and Part 11 (CALGreen).

The IOUs supported the Energy Commission’s 2019 rulemaking by developing 40 building code proposals contained in 23 CASE reports (some reports contained multiple proposals). The 2019 CASE reports are available online at <http://title24stakeholders.com/2019casetopics/>. The 2019 Standards are expected to go into effect on January 1, 2020.

***Residential changes to Title 24 included:***

- Code will now require renewables equivalent to total electricity use in most mixed fuel homes, which will assist in meeting state Zero Net Energy goals
- CBECC-Res compliance software includes CO<sub>2</sub> emissions reporting
- CBECC-Res includes the Energy Design Rating (EDR) that includes nonregulated loads, which is comparable to national RESNET rating. The Standards will require a passing EDR score to comply.
- More stringent envelope requirements, such as high-performance attics and quality insulation installation, will yield savings and improved comfort
- Furnace fan power reduction (based on ATS lab testing)
- Changes to water heating requirements, which makes it easier to build all-electric homes

***Nonresidential Changes to Title 24 included:***

- Occupancy sensor control of ventilation simplified (based on ASHRAE 90.1)
- Automated fume hood sashes automatically close laboratory fume hoods when no one is present
- Induction fan for laboratory exhaust systems have fan speed controls that respond to wind velocity
- Fault detection and diagnostics of economizers expanded to built-up fan systems

***General Title 24 advocacy support included:***

- User-centered development of code language to improve enforceability in collaboration with the IOU Compliance Improvement team
- IOU sponsored stakeholder meetings to develop consensus in advance of formal workshops
- Review and testing of compliance software

***Participation in ASHRAE 90.1 included:***

- Updates to hotel guest room HVAC and lighting controls

***Support for ASHRAE 189.1 included:***

- Commissioning proposal to better align with ASHRAE Standard 202
- Emission factors table for use in complying with respect to the CO<sub>2</sub>e component of the performance approach

Implementation challenges in 2017 included concerns about the complexity of the Standards, including the process to comply, remain a barrier to acceptance. In response to industry engagement and Energy Commission input, the trend towards increasing rigor continued in 2017; hence, the cost of building codes advocacy will continue to increase. Some stakeholders continue to claim lack of properly trained labor and permitting delays as factors in meeting the requirements.

## **SCG3725 Codes & Standards - Appliance Standards Advocacy**

The Appliance Standards Advocacy subprogram targets both state and federal standards and tests methods including improvements to Title 20 Appliance Efficiency Regulations by the Energy Commission, and improvements to federal appliance regulations and specifications by the DOE,

Environmental Protection Agency (EPA) ENERGY STAR® Program, ASHRAE, and the Federal Trade Commission (FTC). Advocacy activities include developing Title 20 code enhancement proposals, participating in the Energy Commission public rulemaking process and ASHRAE committees, submitting comment letters in federal standards proceedings, and participating in direct negotiations with industry. Additionally, the program monitors state and federal legislation and intervenes, as appropriate.

Since the federal government currently has a more conservative disposition level towards appliance efficiency standards, the Energy Commission has pursued appliance efficiency with renewed purpose. The IOUs efforts in 2017 include:

- Participated in several Energy Commission webinars and workshops regarding, spray sprinkler bodies, irrigation controllers, commercial & industrial (C&I) fans and blowers, expanded definition general service lighting (GSL) definition, solar inverter roadmap, set top box roadmap, tub spout diverters, low power mode and power factor roadmap, commercial clothes dryer test procedure and portable spas and pool pumps rulemakings.
- Developed CASE studies for the Energy Commission on products including spray sprinkler bodies, irrigation controllers, commercial & industrial (C&I) fans and blowers, expanded definition general service lighting (GSL) definition, solar inverter roadmap, set top box roadmap, tub spout diverters, low power mode and power factor roadmap, commercial clothes dryer test procedure and portable spas and pool pumps rulemakings.
- Completed laboratory testing for commercial clothes dryers with results submitted as part of the CASE studies.

The C&S program advocated for changes to federal appliance standards through various efforts:

- Researched and responded to specific issues related to federal rulemaking and specification processes conducted by the DOE and EPA ENERGY STAR®.
- Participated in stakeholder meetings during rulemakings and specifications processes, resulting in ten rulemaking advocacy letters issued in 2017.
- IOU advocacy letters issued in previous years influenced rulings on seven federal measures taking effect in 2016.
- Participated in DOE's Appliance Standards and Rulemaking Federal Advisory Committee meetings with DOE, industry, and other stakeholders.

DOE standards finalized in 2017 included walk-in coolers and freezers, portable air conditioners, uninterruptible power supplies, air compressors, and packaged boilers.

The current administration is working at a slower pace than in previous years which reduces our opportunity to update federal standards. DOE is focused on process improvements and changes to the overall program rather than individual equipment rulemakings or test procedures.

## **SCG3726 Codes & Standards - Compliance Enhancement**

The C&S Program supports increased compliance with the Building Energy Efficiency Standards and the Appliance Standards after they are adopted. Compliance improvement activities complement advocacy work by maximizing verified savings from C&S activities that

are realized and persist over time. The Compliance Improvement subprogram targets market actors throughout the entire compliance chain, providing education, outreach, and technical support and resources to improve compliance with both building and appliance energy standards. Achieving satisfactory compliance with codes and standards is a crucial requirement for capturing the intended energy savings for the long-term benefit of society. High compliance rates are necessary to level the playing field for well-intentioned suppliers and contractors who are otherwise faced with a competitive disadvantage when complying with regulations. Greater compliance strengthens voluntary program baselines and provides a solid foundation for future robust advocacy efforts.

The Compliance Improvement (CI) subprogram launched a new, easy-to-navigate version of EnergyCodeAce.com. The training team delivered more than 120 Title 24, Part 6 standards-related traditional and virtual classroom training sessions, 20 Decoding Talks, launched a new Code & Coffee live stream series, and created a new learning block series in support of Certified Energy Analysts. A number of new resources and tools were added to the Energy Code Ace library such as the “Lighting Wheel” and factsheets on computer and lamp regulations, while the T20 standards were incorporated into the Reference Ace. Additionally, the CI Subprogram continued development of new dynamic compliance forms in close collaboration with the Energy Commission and designed a prototype of a user interface that industry will soon use to complete the new forms. The CI Team represented all of the subprogram offerings and gathered feedback at over 55 industry events throughout the state.

Other compliance improvement support for Title 24, Part 6 building codes included:

- Enhancing the traditional Residential Standards Essentials course for Plans Examiners and Building Inspectors making it far more activity-based and less lecture intensive.
- A blended learning series designed to support development of Residential Certified Energy Analysts. The new blended learning approach includes a combination of learning blocks that students choose to enter and complete according to their specific competency barriers. Learning opportunities are delivered in various formats including Energy Code Ace’s self-study courses, virtual workshops, and mentoring. For example, residential courses include: Residential Envelope & Solar Systems (workshop), Residential Mechanical Systems (workshop), Residential Modeling Tips (workshop), Analyzing the CF1R (workshop), Residential & Non-residential HERS (self-study), Residential Envelope (self-study), Residential Solar Systems (self-study), and Residential Water Heating (self-study).
- More than 118 live training sessions with approximately 3,000 attendees achieving an average knowledge swing of 20% and overall satisfaction rating of 92%
- Decoding webinars covering six topics related to the 2016 Standards. Each webinar was offered in three to four separate sessions, resulting in completion of 20 decoding webinars with approximately 600 attendees.
- Redesigning the Energy Code Ace website. Sample enhancements include: easier navigation through a new overall search function and the ability to filter offerings by resource type, market actor role, topic, and standard; the opportunity to request courses and expert help; ability to view training offerings by calendar or list view; thumbnail images of resources; and a more robust Reference Ace.

- Outreach via Energy Code Ace by distributing 70 targeted messages, responding to more than 170 requests for assistance, and participating in more than 55 industry events such as: Pacific Coast Builders Conference, California Association of Local Building Officials Education Weeks, AIA Monterey Design Conference, and the California Association of Building Energy Consultants (CABEC) annual conference.
- Transitioning the Certified Energy Analyst (CEA) exam administration to CABEC while supporting exam revisions as needed. Additionally, the CI Subprogram initiated a study designed to assess the difference in the quality of the compliance documents submitted for permits by Certified Energy Analysts and energy consultants who are not certified.

Compliance improvement support for Title 20 Appliance Standards included:

- A new T20 section of the Reference Ace.
- Fully incorporating T20 into the overall Energy Code Ace website.
- Developing a T24/T20 “master resource” which lists the equipment/products in both T20 and T24 that are required to be certified, illustrates the overlap/relationship between T24 and T20, as well as highlighting the fact that some equipment needs to be certified to the Commission for T24 compliance.
- Assessing and implementing compliance improvement solutions for Lighting, Computers and Residential Pool Pump Motors.
- Conducted outreach to major retailers to garner feedback on the preliminary design of a Model-Matching Tool. The objective of the tool is to enable users to quickly compare a batch of retail model numbers with model numbers listed in the Modernized Appliance Efficiency Database System (MAEDBS) to help identify products that have been certified to the California Energy Commission; only products listed in the MAEDBS are legally allowed to be sold or offered for sale in California.

The ability to identify and reach key market actors in the Title 20 standards compliance supply chain, in order to understand their unique compliance barriers, has proven to be far more complex than Title 24, Part 6. New needs assessment and outreach efforts are underway to enable application of the user-centered design process which is at the core of all Energy Code Ace offerings.

## **SCG3727 Codes & Standards - Reach Codes**

In addition to state and national building codes, the C&S Program provides technical support to local governments that wish to adopt ordinances that exceed statewide Title 24 minimum energy efficiency requirements for new buildings, additions, or alterations (reach codes). Reach code support for local governments includes research and analysis to establish performance levels and cost effectiveness relative to Title 24 by climate zone, drafting model ordinance templates to encourage regional consistency, assistance for completing and expediting the application process required for approval by the CEC, and supporting implementation once effective. The subprogram supports local governments seeking to establish residential or commercial energy conservation ordinances for new construction and existing buildings.

Many local jurisdictions have established goals within their Climate Action Plans to reduce energy use and greenhouse gas emissions from buildings through adopting and implementing



local energy ordinances. Given the changing policy and funding priorities at the federal level, cities and counties are experiencing a greater sense of urgency for local action to meet the state's GHG emission reduction goals. This urgency has translated to a greater interest in reach codes as a path to achieve the goals. With reducing GHG emissions as the highest priority, there is a shift in focus from reducing energy use generally to specifically reducing energy use associated with carbon emissions.

2017 program work included the following:

- Completed the following cost-effectiveness studies: CALGreen Tiers 1 and 2 for All-Electric Residential New Construction, CALGreen Tier 3 for Residential New Construction, CALGreen Tier 1 for Nonresidential New Construction, and for the City of Chico, a study covering significant renovations in existing single-family homes.
- Provided technical support to staff at several jurisdictions, including presentation of cost-effectiveness studies, consultations on options and opportunities, review and recommendations regarding proposed ordinance structure, triggers and language.
- Launched the LocalEnergyCodes.com web site which contains all program studies, as well as model ordinance and resolution language which jurisdiction staff may use to facilitate drafting the ordinance. Beginning from a common core helps to support consistency across jurisdictions. The web site also contains links to other providers, state agencies, and other resources. From its launch in July through December, the home page was viewed more than 7,000 times. The Nonresidential New Construction Study was downloaded most often (100 times) followed closely by the Residential New Construction CALGreen Tiers 1 and 2 Mixed-Fuel (94) and All-Electric (84) studies.
- Attended Statewide Energy Efficiency Collaborative (SEEC) Forum. Coordinated and hosted reach codes session with the County of San Mateo and the Cities of Fremont and Santa Monica.
- Began working with ICLEI to determine if the ICLEI ClearPath tool can be a path for tracking reach code impacts.

In 2017, several reach codes were adopted by local jurisdictions and approved by the Energy Commission, based on IOU cost effectiveness studies. Approved local ordinances may be found on the Energy Commissions website:

<http://www.energy.ca.gov/title24/2016standards/ordinances/>

In general, reach codes have a relatively short “shelf life.” Following adoption of new building codes, compliance software must be updated to reflect new building codes before cost-effective (CE) studies can be completed. Then local jurisdictions adopt reach codes based on CE studies, followed by CEC approval. By the time this work is completed, there may be only year or two before the next code becomes effective.

## **SCG3728 Codes & Standards - Planning Coordination**

The planning element of this subprogram includes long-term planning and scenario analyses, modeling of impacts from potential C&S program activities relative to California policy goals and incentive programs, development of business and implementation plans, responses to CPUC

and other data requests, and maintenance of a C&S savings database consistent with evaluation protocols.

The coordination element includes internal and external harmonization with other groups. Internal activities have traditionally included collaboration with several departments: a) incentive, training, and demand response programs, b) policy, regulatory, and corporate affairs, and c) emerging technology and product teams. More recently, as building codes have begun to incorporate distributed generation and batteries, coordination has expanded to strategy integration, distributed generation programs, and others involved in grid management.

Since Codes and Standards impacts the entire state and almost all building types, occupancy categories, and related technologies, external harmonization activities encompass: a) CPUC, California Energy Commission, Air Resources Board, b) other IOUs, municipal utilities, and utilities in other states, c) national advocates such as Appliance Standards Awareness Project (ASAP), Natural Resource Defense Council (NRDC), Northwest Energy Efficiency Alliance (NEEA), Sierra Club, American Council for and Energy-Efficient Economy (ACEEE), Earthjustice, National Consumer Law Center, Consumer Federation of America, d) representatives of various manufacturing companies and industry groups such as the Association of Home Appliance Manufacturers (AHAM), CTA, NEMA, American Gas Association (AGA), and e) water utilities and local governments, and e) other parts of the compliance improvement supply chain: building inspectors, Title 24 consultants, Contractor State Licensing Board (CSLB), etc. In 2017, SoCalGas extended the partnership with the Los Angeles Department of Water & Power for LADWP to actively participate in all Codes & Standards subprograms.

The C&S program impacts EE, PV and storage technologies, utility grids, building and manufacturing industries, the compliance improvement supply chain, EE and demand response (DR) programs, local governments, state and national code setting bodies, ratings organizations, etc. planning and coordination activities are challenging.

## **Statewide Workforce Education & Training Program**

The Statewide IOU Workforce Education and Training (WE&T) Program represents a portfolio of education, training, and workforce development planning and implementation funded by or coordinated with the Investor-Owned Utilities (IOUs): PG&E, SCE, SDG&E, and SoCalGas. Education and training are vital components of each of the IOU's energy efficiency portfolio.

SoCalGas Workforce Education & Training continued reaching out for new curriculum, across the energy efficiency industry to offer energy efficiency workforce in support of resource program goals and objectives. Achieving deeper savings, articulating code changes, and developing a well-trained and appropriately skilled workforce represented some of the driving themes for WE&T in 2017. There were also challenges in the last year, such as: keeping pace with local, regional, and state policies and initiatives; trying to coordinate and align WE&T efforts with numerous energy efficiency training implementers; and maintaining commitments to the Strategic Plan, workforce needs, education curriculum, and training standards.

## **SCG3729 Workforce Education & Training - Centergies**

The WE&T Centergies Sub-Program is generally organized around market sectors as a cross-cutting segment to facilitate workforce education and training appropriate for achieving the energy savings, demand reductions and related energy initiatives required of the IOUs.

During 2017, SoCalGas WE&T Centergies conducted 151 training/seminar sessions, 131 outreach consultations, and 310 equipment demonstrations. SoCalGas continued implementing steps to adjust its portfolio offerings to include Integrated Demand-side Management curriculum and draw audiences representing occupations that can have the most impact in the success of the SoCalGas program portfolio. During 2017 WE&T incorporated Skype technology to conduct more enhanced discussion and working sessions with market actors and implementers.

The trainings and seminars provided a mix of existing and new courses developed in collaboration with WE&T partners to meet student needs. Examples include: Building Operator Certification training sessions and webinar series to commercial building operators; building awareness and education in Building Science by offering three classes in this area; hosting the Municipal Green Building Conference and Expo to further awareness and demonstrate examples of success in the area of sustainability; partnering with the Metropolitan Water District to facilitate four California-friendly landscape classes held to promote sustainability and drought awareness; and collaborating with the Home Building Institute (HBI) to provide non-paid internship opportunities in landscape and facilities maintenance to qualified trainees at the Energy Resource Center.

New activities and efforts that were complementary to the continuing WE&T work implemented during 2017 included focusing on ways to build a functional relationship with labor and apprenticeships - as part of a more collaborative training strategy. In addition, SoCalGas expanded its partnership with the Institute of Heating and Air Conditioning Industries, Inc. (IHACI) to design and add the new industry-requested HVAC/R classes to its HVAC training series. SoCalGas also engaged the plumbing and mechanical trades on sustainability, with presentations and hands-on training focused on residential and commercial water-heating in our newly designed water heating demonstration lab. And finally, SoCalGas' WE&T team is collaborating with a water-heating distributor in offering quarterly, in-depth energy efficiency training sessions for premium tankless water-heating systems. The training sessions were developed to help achieve deeper energy savings and increase uptake for efficient tankless water-heating equipment and technology. The training includes interactive product demonstrations, as well as hands-on installation, operation, diagnostics and trouble shooting.

## **SCG3730 Workforce Education & Training - Connections**

The WE&T Connections Sub-Program is organized around downstream and upstream relationships between the IOUs and the educational sector that support workforce development in energy efficiency, energy management, and educating students about green careers. The Connections Sub-Program seeks to promote the understanding of EE, demand side management (DSM), distributed generation (DG), and green career awareness along all educational paths.

The WE&T Connections Sub-Program achieves its EE educational goals by working with community-based organizations, state education agencies, and educational stakeholders. In conjunction with third party vendors, the WE&T Connections Sub-Program provides interactive programs, educational materials, assemblies, and teacher workshops that are aligned with the California Department of Education's content standards.

In 2017, the WE&T Connections program managers continued implementation of programs launched under co-funding arrangement by IOUs with new program vendors. The programs selected were separately targeted to the K-8, 9-12 and post-secondary education level.

In 2017, The WE&T Connections Sub-Program achievements were positive. The PEAK Student Energy Actions Program, which targets K-8 grade educators and their students, exceeded all deliverables in 2017, reaching 6,348 (Goal: 6,000) students of which 71% (Goal: 50%) within the SoCalGas service area. Additionally, the PEAK Program launched the online PEAK Ambassador Model, resulting in increased flexibility and access for participants, particularly those in hard-to-reach and/or underserved communities. The Energize Schools Program, which targets grades 9-12, was also able to exceed its goal of statewide students reached within the SoCalGas service area. Of the schools participating in the program, 69% were categorized as Title 1 schools and 14,605 students reached and finally, the post-secondary school program, with its Education and Internship components, are tracking well on its goals for the number of faculty partners engaged, number of filled internship positions, community project roles accomplished, and campuses reached by the program.

## **SCG3731 Workforce Education & Training - Strategic Planning**

The WE&T Planning Sub-Program involves the management and execution of strategic statewide planning tasks.

During 2017, the SoCalGas WE&T Strategic Planning team spent considerable time in discussion around filings and response comments with stakeholders and intervenors on topics ranging from metrics, disadvantaged worker definition, workforce standards and responsible contractor policy. The time and effort resulted in reasonable progress on contentious issues that still will require considerable discussion and compromise in 2018 to find common ground and agreement on specific application and functional implementation.

The WE&T team transitioned from its stakeholder engagement forum format, which was used for conducting taskforce meetings to using the California Energy Efficiency Coordinating Committee (CAEECC), sub-committee meeting structure for continuing engagement with WE&T stakeholders. Efforts to achieve greater value and outcomes from collaboration with industry, trades, education institutions, policy influencers, and public agencies, to deliver well-trained and appropriately skilled workforce, remain of the highest priority to the IOU WE&T Programs.

## **SCG3733 Statewide Marketing, Education and Outreach**

In March 2016, the Commission authorized an open solicitation for an implementer for Statewide Marketing, Education and Outreach (SW ME&O) in 2017 and beyond per Decision 16-03-029, and in September 2016 approved the results of that solicitation; the selection of DDB of San Francisco per Decision 16-09-020. As per the previously adopted governance structure, the Commission identified responsibilities for the IOUs, particularly that the IOUs act in a supportive role to the statewide implementer. The Commission directed PG&E to serve as the fiscal manager, on behalf of the IOUs, through a contract with DDB without exercising control of, or modifications to, the overall design of the Statewide ME&O program.

DDB's contract became active in October 2016. Since contract execution, SoCalGas has coordinated with and supported DDB to ensure consistency between statewide marketing efforts with SoCalGas maintaining responsibility over local marketing efforts. SoCalGas also provided collaborative feedback on the DDB created 5-Year Roadmap, Annual Joint Consumer Action Plans (JCAPs), all content for the completely re-designed statewide website ([energyupgradeca.org](http://energyupgradeca.org)), prioritization of marketing topics for the year one JCAP and future JCAPs, and input for statewide campaign strategies and collateral.

## **SCG3734 Statewide IDSM Program**

The California Long Term Energy Efficiency Strategic Plan (Strategic Plan) recognizes the integration of demand-side management (DSM) options, including energy efficiency, demand response, and distributed generation, as fundamental to achieving California's strategic energy goals. To support this initiative, the Investor Owned Utilities (IOUs) have identified integrated demand-side management (IDSM) as an important strategic DSM policy priority and have proposed a series of activities, pilots and other programs in response to the Strategic Plan DSM Coordination and Integration Strategy.

A Statewide IDSM Task Force (Task Force) was formed in 2010 and has continued coordinating activities that promote, in a statewide-coordinated fashion, the strategies identified in the Strategic Plan and the eight integration directives described in Decision (D.)09-09-047 as follows:

1. Development of a proposed method to measure cost-effectiveness for integrated projects and programs including quantification and attribution methods that includes GHG and water reductions benefits and the potential long-term economic and electric/gas hedging benefits.
2. Development of proposed measurement and evaluation protocols for IDSM programs and projects.
3. Review IDSM-enabling emerging technologies for potential inclusion in integrated programs.
4. Development of cross-utility standardized integrated audit tools using PG&E's developed audits as a starting point.
5. Track integration pilot programs to estimate energy savings and lessons learned and develop standard integration best practices that can be applied to all IOU programs based

on pilot program evaluations and the results of additional integration promoting activities (i.e., evaluation, measurement & verification (EM&V), and cost-benefit results).

6. Develop regular reports on progress and recommendations to the CPUC.
7. Organize and oversee internal utility IDSM strategies by establishing internal Integration Teams with staff from energy efficiency, demand response, distributed generation, marketing, and delivery channels.
8. Provide feedback and recommendations for the utilities' integrated marketing campaigns including how the working group will ensure that demand response marketing programs approved as Category 9 programs are coordinated with EE integrated marketing efforts.

#### Statewide IOU Strategies Implemented in 2017

- Directives 1 & 2 - The Task Force is exploring a phased approach to developing an appropriate methodology to calculate integrated cost-effectiveness and an integrated EM&V approach for IDSM programs and projects. Integrated Cost Effectiveness Research will establish the data needs to inform the understanding of integrated cost effectiveness for IDSM programs and projects. An integrated EM&V whitepaper is expected to show how the IOUs and the CPUC's Energy Division document and attribute energy savings and demand reduction to IDSM project implementation, using methodologies established from evaluation. In 2017, no additional reports were completed.
- Directives 3 & 5 - The Task Force tracked multiple integrated emerging technologies and reviewed various programs, projects, IDSM Pilots and activities to identify integration efforts and opportunities, as well as to develop best practices.
- Directive 4 - The statewide online integrated audits team continues to coordinate to deliver a consistent online integrated audit tool that works with each IOU interface and educates customers on managing their energy use costs. The IOUs created online integrated audit tools for residential and small to medium size business customers with customized audit recommendations based on: customer profiles, operating characteristics, market sector potential, and cost-effectiveness. The IOUs also enhanced existing integrated tools to include solar-related functionality. The IOUs continue to offer on-site integrated audits to small, medium, and large customers.
- Directive 6 - The IOUs submitted four joint quarterly reports for 2017, including an Executive Summary section, to provide Energy Division staff with updates on the eight IDSM directives. All quarterly reports were uploaded and available for viewing on the California Energy Efficiency Statistics Data Portal (EE Stats).
- Directive 7 - The Task Force held regular coordination phone calls to continue to ensure alignment across the state and discuss lessons learned.
- Directive 8 - Delivery of IDSM marketing continues to be more than just promotion of multiple programs within specific tactics like collateral or websites. It is a key component in the planning phases of integrated Marketing, Education & Outreach (ME&O) to help provide the right solutions to the right customer, at the right time. The Task Force tracks, reports and shares best practices related to local integrated marketing campaigns for residential and business customers.

#### SoCalGas IDSM Strategies Implemented in 2017:

Through a Single-Point-of-Contact (SPOC) strategy, SoCalGas engaged 18 large multifamily portfolio owners, enrolling 8,060 units in the low-income Energy Savings Assistance Program,

as well as other energy efficiency programs such as Multifamily Rebate and On-Demand Efficiency Programs. Through the SPOC, SoCalGas also enrolled the largest senior housing facility in the United States located in downtown Los Angeles into the Energy Savings Assistance Program's Multifamily Common Area Pilot. The facility received an ASHRAE Level II audit, and will undergo retrofits in 2018. SoCalGas' SPOCs have started supporting implementation of Demand Response by promoting installation of smart thermostats in affordable housing portfolios.

SoCalGas continued to partner with other utilities to deliver IDSM solutions that encompass multiple fuel sources, (gas, electricity and water). To date, the IDSM initiative has delivered 31 joint program agreements with municipal utilities that include Los Angeles Department of Water and Power (LADWP), Riverside Public Utilities, Anaheim Public Utilities, Pasadena Water and Power, and Metropolitan Water District (MWD). SoCalGas also continued working SCE and PG&E to deliver joint programs and services in the statewide programs. SoCalGas launched one new partnership program each with LADWP, Anaheim, Pasadena and MWD in 2017. SoCalGas continued to market its utility partnership model to other utilities and external entities by participating and presenting the model in national conferences such as ACEEE's Energy Efficiency as a Resource in 2017.

SoCalGas continued developing and enhancing the IDSM knowledge and capabilities of its internal staff, through in-person joint meetings both internally and with municipal utility partners. SoCalGas held an IDSM summit in July 2017 in partnership with LADWP to inform and educate staff members about IDSM opportunities offered by the two utilities. To promote further integration, as of the fourth quarter of 2017, the operation of the IDSM programs, including energy efficiency, demand response and solar thermal programs, has been consolidated under a single management group. Additionally, SoCalGas has conducted numerous joint EE/Energy Savings Assistance Program (ESAP)/Solar Thermal marketing sessions in 2017, including participation in 163 residential events and 40 business events.

SoCalGas' energy efficiency team continues to work closely with the ESAP team to refine communication and coordination strategy to ensure that customers, particularly multifamily ones, receive comprehensive services and incentives regardless of the occupants' income qualification. The demand for program partnerships with municipal utilities from both SoCalGas program teams and the partner utilities' continued to be robust. However, this demand also needed to be balanced with the availability of program resources. Consequently, both SoCalGas and partner utilities agreed to prioritize program launches based on their impact and strategic importance.

SoCalGas continued to expand its capabilities in delivering comprehensive customer solutions via its partnership programs, for example, with the Engineering Support for Calculated Program Partnership with LADWP, where both utilities jointly review custom energy efficiency projects with both gas and electric opportunities.

SoCalGas continued partnering with major municipal utilities in Southern California and continued to expand its portfolio of joint programs and offerings by launching four new joint programs in 2017. SoCalGas' staff continued working internally to ensure integration among different categories of programs (e.g. EE, ESAP, solar thermal), as well as externally with

municipal and investor-owned utilities to ensure integration of natural gas/electric/water efficiency, solar, demand response and advanced metering offerings, particularly for the multifamily sector, where SoCalGas assigned dedicated multifamily account executives to work exclusively with large multifamily portfolio owners in its territories.

## **Statewide Financing Programs**

Energy efficiency finance offerings are designed to facilitate the adoption of energy efficiency by addressing one of the major barriers to participation: up-front costs. Additionally, finance enables customers to take a holistic approach to projects and acts as a catalyst to implement improvements regardless of capital budgets or schedule constraints. The offerings are designed to help customers produce deeper energy savings. The Statewide Financing options are growing beyond the traditional On-Bill and ARRA-originated Financing programs with the introduction of new financing pilots authorized by the Commission.

### **SCG3735 Finance - On-Bill Financing**

Statewide On-Bill Financing (OBF) offers interest-free, unsecured, on-the-utility-bill loans that work in conjunction with utility energy efficiency programs. OBF is designed primarily to facilitate the purchase and installation of qualified energy efficiency measures by non-residential customers who may lack up-front capital to invest in real and sustainable long-term energy cost reductions. Loan terms range from up to five years for commercial customers and up to ten years for government agency customers. The eligible loan amount is based on the project cost, less incentives or rebates, up to the loan maximum of the OBF product and within the loan term thresholds. Customer loans are repaid through a fixed monthly installment on their utility bills. There is no prepayment penalty and loans are not transferable. Partial or non-payment of loans could result in shut-off of utility service.

During 2017, the OBF program continued working with SoCalGas customer representatives and equipment vendors to encourage customers to participate. The OBF program was closely coordinated with the Local Government Partnerships and Institutional Partnerships on a number of local and state government projects. The partnerships only accounted for a small amount of the OBF volume, however, they accounted for almost half of the disbursed dollar amounts. An updated look and feel was applied to the OBF marketing collateral. The collateral incorporated a new loan limit table and a sample loan calculation. The collateral is being distributed at local community events and through our Local and Institutional partnerships.

The key implementation barrier for natural gas-only OBF continues to be the long payback periods for natural gas equipment. Project payback periods for most gas projects tend to be much longer than the five -year maximum required for business projects to qualify.

There was one program design change to the OBF program in 2017. The maximum loan term for Institutional and State of California increased from 10 to 15 years. This change is expected to allow more projects to qualify for financing as the loan term is tied to the project simple payback period.



## **SCG3736 Finance - ARRA Originated Financing**

The American Recovery and Reinvestment Act (ARRA) Originated Programs utilize ratepayer support to continue successful ARRA-funded programs. These programs were designed to encourage the implementation of comprehensive energy efficiency retrofits by providing access to affordable financing options. SoCalGas has previously provided support for the following two ARRA continuation finance programs:

The emPower Central Coast (emPower) program is an ARRA-Originated Financing Program administered by the County of Santa Barbara and jointly co-funded by PG&E, SCE, and SCG. The program is run in partnership with the Counties of Ventura and San Luis Obispo. The program was designed to encourage the implementation of comprehensive energy efficiency retrofit projects, specifically those that qualify for the statewide Home Energy Upgrade (HUP) program. emPower receives ratepayer funding to provide wrap around services to the HUP program which include; unsecured financing for single-family homeowners, free technical advice via the Energy Coach service, homeowner education and outreach and contractor workforce, education and outreach. The program also provides credit enhancement funds through a loan loss reserve (LLR).<sup>4</sup> The program leverages both ARRA and IOU ratepayer funding to create a partnership between Santa Barbara, Ventura and San Luis Obispo Counties, HUP, and two (2) local credit unions.

In 2017, emPower engaged with a total of 3,694 interested individuals, of those interested individuals, 3,472 were attendees at 64 marketing and outreach events either hosted or participated in by emPower staff. emPower also partnered with the Community Home Energy Retrofit Program (CHERP) to launch the 50 Home Challenge – Solvang in October, 2017, a grass roots effort to engage an entire community on the benefits and opportunities around energy efficiency, and ultimately inspire 50 homeowners to make energy upgrades to their home. In 2017, emPower was able to use leveraged funding from the California Energy Commission to buy down the interest rate to 3.9% for its emPower loan product.

## **SCG3737 Finance - New Financing Offerings**

The IOUs were authorized by Commission to develop a set of statewide financing pilot programs that offer scalable and third-party capital leveraged financing products that increase the availability of financing for underserved sectors and result in deeper energy savings. Key features of the pilots will be in the form of credit enhancements and on-bill repayment (OBR) to attract private capital support for financing energy improvement projects. New and innovative financing pilots will be developed for the single family residential, multifamily, small business, and non-residential sectors. Ratepayer-supported credit enhancements will be made available to participating lenders offering financial products to qualified single family residential, multifamily, and small business customers. The credit enhancements provide additional security

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<sup>4</sup> An LLR provides reimbursement to a financial institution only in the event of a default on a qualifying loan, up to a given percentage on a portfolio of loans. IOUs provide LLR funds and set eligible energy efficiency measures. Financial intuitions provide capital for EE loans.

to participating lenders to mitigate loan default which is expected to result in more attractive borrowing terms for the customer.

The California Hub for Energy Efficiency (CHEEF) will be administered by the California Alternative Energy and Advance Transportation Financing Authority (CAEATFA). CAEATFA will be responsible for designing and developing program regulations for the Financing Pilots through an existing public rulemaking process. The Residential Energy Efficiency Loan (REEL) program launched July 2016 for single family residential customers. The remaining pilots including the OBR programs are scheduled to launch late 2018.

SoCalGas, as the lead program administrator, along with the other IOUs continued to support CAEATFA in the implementation of REEL and the development of the other financing pilots. During 2017, SoCalGas and the IOUs focused more efforts on local marketing of the REEL program by identifying cost-effective marketing, education and outreach (ME&O) options for both contractors and consumers. As a result of this effort, CAEATFA enrolled over 100 new REEL loans with more than \$1.8m in funding by four participating lenders. At the end of 2017, REEL had 174 participating contractors and approximately 50 contractors completing projects.

### **SCG3803 Finance - California Hub for EE Financing**

The California Hub for Energy Efficiency Financing (CHEEF) was established to design and implement new statewide financing pilots targeting the single family residential, multifamily, small business, and non-residential sectors. The CHEEF infrastructure coordinates the flow of third-party private capital to fund energy improvements, manage the availability of project, loan, and energy consumption data, and ensure a streamlined process for program participants. Key components of the CHEEF infrastructure includes a Master Servicer responsible for the day-to-day administrative operations of the program, a trustee bank responsible for holding and transferring ratepayer funds used for credit enhancements, a contractor manager that provides quality assurance and control (QA/QC) for finance-only projects, and data manager that will make anonymized and aggregated program data available to the public.

In Decision (D.) 13-09-044, the Commission requested the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to take on the role as CHEEF manager. CAEATFA is responsible for administering the CHEEF which includes developing program regulations for the Financing Pilots through a public rulemaking process, operationalizing program processes and forms, and managing outreach efforts to both contractors and financial institutions. A contract was executed by the investor owned utilities (IOUs) and CAEATFA in September 2014 with the most recent amendment executed in 2017. SoCalGas is the lead utility for the Financing Pilots Program and lead contract administrator for the CHEEF agreement.

In March 2017, the Commission issued D.17-03-026 which amongst other things: 1) restated the Commission's approval of long-term funding for CAEATFA to administer the pilots 2) authorized CAEATFA more control over program design and credit enhancement structure 3) established a deadline for pilot launch by December 2019 and 4) authorized budgets for the IOUs through the end of 2020 for operational activities including marketing. The March Decision also

authorized SoCalGas to continue as the lead utility partner with CAEATFA. CAEATFA now has the flexibility to create pilots that are more attractive for participants through innovative borrower-centric program design.

During 2017, IOUs assisted CAEATFA in coordinating discussion with IOU program staff to investigate project eligibility pathways and utility program integration for commercial and multifamily programs. SoCalGas led a competitive solicitation effort for a new statewide marketing, education, and outreach (ME&O) vendor for the Financing Pilots as directed by the Commission. SoCalGas awarded a new contract to the Financing Pilots ME&O vendor in October 2017 and took over administrative responsibility for the contract. SoCalGas was actively involved in local marketing the REEL program to contractors and customers emphasizing integration with existing programs, engaged in the development of the commercial pilots, and assisted with securing additional flexibility for CAEATFA through comments to the D.17-03-026. Additionally, SoCalGas managed the CHEEF agreement including administration of quarterly invoicing and reporting activities to the Commission and IOUs.

## **Institutional Partnerships**

Institutional Partnerships are designed to create dynamic and symbiotic working relationships between IOUs, state or local governments and agencies or educational institutions. The objective is to reduce energy usage through facility and equipment improvements, share best practices, and provide education and training to key personnel. In 2016, the Institutional Partnerships addressed programmatic challenges impacting energy efficiency projects at the campuses and state facilities as well as providing a concentrated effort to support shared energy efficiency, ZNE, and environmental goals. As described in the energy efficiency Business Plan development process, Institutional Partnerships will be considered part of the Public Sector Program portfolio. Through the energy efficiency Business Planning process, SoCalGas worked with partners to engage them in identification of challenges facing higher education and state agencies, as well as included them in the development of Public Sector strategies.

### **SCG3738 Institutional Partnership - California Department of Corrections Partnership**

The California Department of Corrections and Rehabilitation/Investor Owned Utility (CDCR/IOU) partnership is a customized statewide energy efficiency partnership program that accomplishes immediate, long-term peak energy demand savings and establishes a permanent framework for sustainable, long-term comprehensive energy management programs at CDCR institutions served by California's four large IOUs.

This program capitalizes on the vast opportunities for efficiency improvements and utilizes the resources and expertise of CDCR and IOU staff to ensure a successful and cost-effective program that meets all objectives of the CPUC. The program also leverages the existing contractual relationship between CDCR and Energy Service Companies (ESCOs) to develop and implement energy projects in CDCR facilities.

In 2017 CDCR reinitiated the 2016 retrofit projects that had been put hold and performed Investment Grade Audits. The IOUs and the Program Administration Manger (PAM) supported development of the new projects, ensuring that they reached maximum efficiency and incentive potential. To support more project development, the IOUs performed energy audits of a subset of CDCR's facilities, which CDCR is using to prioritize the next wave of projects.

The program undertook an effort to ensure new construction projects and gas-saving, water conservation projects were clearly tracked and proactively managed. The IOUs provided ongoing training to the ESCOs around changes to IOU financing options (enhanced incentives, rebates and OBF) and processes. Regular management team meetings (every 4 weeks) and executive team meetings (quarterly) have been key to identifying and managing projects, and to proactively addressing any challenges the program may have faced.

CDCR uses over half of the energy consumed by state agencies under the Governor's executive authority; however, CDCR's budget for implementing energy efficiency projects in minimal. However, through the CDCR-IOU energy efficiency partnership program, efficiency projects can be identified and implemented through the IOU core and On Bill Financing Programs. On Bill Financing has been and remains the primary source of funding and in select instances, and is supplemented by either Special Repairs Project funding or Department of General Service's GS Smart program.

The CDCR Partnership faces an ongoing challenge of finding funding for projects. On Bill Financing has been and remains the primary source of funding and is supplemented by Special Repairs Project funding, which amounts to 3% of CDCR's assessed needs. CDCR has also leveraged CEC Revolving Fund Loans in the past. CDCR has been working directly with the Energy Division to discuss difficulties encountered advancing projects through the Partnership. A number of projects have been placed on hold until resolution is reached on how CDCR's projects may be technically reviewed, given that the commercial customer segment may not match CDCR's 24/7 operating conditions; CDCR will continue to work with Commission staff so that projects may continue to be advanced and implemented.

In 2017 alone, CDCR achieved 125% of the total program goal for SoCalGas. The level of achievement was due to OBF success in combination with SCE on a multi-year project.

## **SCG3739 Institutional Partnership - California Community Colleges Partnership**

The California Community Colleges/Investor Owned Utility (CCC/IOU) Energy Efficiency Partnership is a unique, statewide program to achieve immediate and long-term energy savings and peak demand reduction within California's higher education system. The statewide incentive funding for the 2017 program year was utilized to maintain the Partnership program processes and framework established in previous program cycles for sustainable, comprehensive energy management at campuses served by California's four Investor Owned Utilities.

The program has a hierarchical management structure to ensure successful implementation. The Management Team met quarterly to conduct business at the management level, and the Executive Team also met quarterly to discuss overall program status and policy issues. The Partnership also focuses heavily on outreach efforts in several areas, including: (1) development of a comprehensive list of technologies, project types, and offerings to be used by team members during campus visits to help generate project ideas; (2) evaluation of new project technologies for suitability in the Community College market, and: (3) planning and participation in CCC conferences and regional Campus Forums.

The Partnership participated in quarterly Campus Forums in both Northern and Southern California, serving as a venue for districts to share successes and strategies for common challenges faced for facilities management and energy efficiency. The Partnership team presented at these Forums, providing time-sensitive updates on new technologies, information on program implementation, and direct assistance to districts in attendance.

The CCC/IOU Partnership has provided extensive outreach and technical support to the districts within the California Community College (CCC) system in support of their efforts to identify, develop, and implement projects funded through Proposition 39, the California Clean Energy Jobs Act of 2012. The Proposition 39 Program continues to be very successful with over 880 energy projects funded (approximately 460 of which were installed and closed out by the end of 2017).

In early 2017, the partnership restructured the Management Team to streamline meetings by removing IOU Account Representatives from attendance. In addition, meeting frequency was changed from monthly to quarterly. By the end of the year it was apparent that without Account Representatives participation in meetings a significant void in information from the field existed. In December, it was decided that Account Representations should again be members of the Management Team to provide this perspective.

The Management Team participated in five CCC conferences such as the CA Higher Education Sustainability Conference and Community College Facilities Coalition conference to reach a diverse audience of facilities, business officers, administration, and board members. In addition, the team participated in Northern and Southern California quarterly Campus Forums to provide regional informational workshops targeted towards campus facilities and energy managers. Finally, outreach members conducted campus meetings with Facilities and O&M staff to review project opportunities and manage project development efforts both on site at the colleges and while participating in the ACBO Facilities Task Force quarterly meetings.

Despite the above successes, 2017 was a year with changes in management structure by the Chancellors request. This request came about funding issues that reduced the amount of meetings as well as personnel that attended the meetings. Changes in leadership at the Chancellor's Office and increased regulation from the CPUC required changes to longstanding processes and allow SCG to meet its partnership goals.

## **SCG3740 Institutional Partnership - UC/CSU/IOU Partnership**

The University of California/ California State University/ Investor Owned Utility (UC/CSU/IOU) Energy Efficiency Partnership is a statewide program which includes California's four IOU's, PG&E, SCE, Southern California Gas Company (SCG), and SDG&E, as well as the continuation of LA Department of Water and Power (LADWP), in partnership with the UC and CSU. The program generates energy savings through the identification and implementation of energy efficiency projects and through training and education to support those projects. The Partnership consists of three main project types: retrofit, monitoring based commissioning (MBCx), and new construction.

The program has a hierarchical management structure to ensure successful implementation. The Management Team meets every three weeks to conduct business at the operational level and the Executive Team meets quarterly to discuss overall program status and policy issues. The Partnership also has a Training and Education Team that organizes various energy efficiency trainings targeted to university campuses. In addition to representatives from each Utility, the UC Office of the President and CSU University Chancellor's Office each have members on all three program management teams. Inclusion of all Partnership stakeholders at the various management levels provides the UC and CSU campuses with support in their efforts to implement energy efficiency projects. A Program Administrative Manager (PAM) organizes and facilitates team activities, works with individual stakeholders, actively tracks project savings and schedule data in a web-based tracking tool and creates regular reports to show overall status of the program and forecasts relative to goals.

In 2017, with the assistance and input from of the University of California, the IOUs began implementation of various approved High Opportunity Project or Programs (HOPPs) including a whole building program consistent with SB350, AB802 and AB1150 to demonstrate measured savings against existing conditions, pay for performance, and comprehensive whole-building approach to building efficiency. Additionally, the Partnership Data Dashboard was expanded from its first iteration in 2016, which allowed partners to easily access and export current and historical Partnership project data. New charts were added to the site to provide greater visibility to the outlook of the Partnership for UC, CSU and the IOUs. With respect to projects, a significant volume of energy efficiency projects was delivered in 2017 and pipelined for future years. In all, nearly 80 Retrofit, MBCx and New Construction projects were completed at over 20 different UC and CSU campuses (inclusive of UC Med Centers).

Lastly, the Training and Education scholarship program was continued, granting over \$50,000 in funding to UC and CSU campus to attend the energy efficiency related training(s) of their choice, as approved by the Partnership. The Training and Education Team held two workshops in northern and southern California, focusing on whole-building energy performance targets throughout building design, construction and operations.

Some campuses stopped pursuing certain projects due to incentive cuts resulting from non-utility supply hourly analysis. In addition, current Commission policy requiring energy savings above code (Title 24) and industry standard practice baselines is not always aligned with determining project financial impact to support project financing or translating savings to carbon reductions

to meet university carbon goals. MBCx offerings at the various IOUs were discontinued in 2016, limiting project opportunities for UC and CSU, leaving a significant gap from what was a practical and popular delivery method for campuses. Additionally, many custom measures were moved to deemed, decreasing the claimable energy savings and incentives received by universities.

The integration of LADWP into the Partnership and the resulting collaboration between Investor Owned and Public Owned Utilities provides a working model for the Public Sector in California to deliver truly comprehensive energy efficiency programs.

## **SCG3741 Institutional Partnership - State of California/IOU Partnership**

The State of California/IOU Partnership is a Statewide program designed to achieve immediate and long-term peak energy demand savings and establish a permanent framework for sustainable, comprehensive energy management programs at state facilities served by California's IOUs.

The IOU's work collaboratively with the Department of General Services (DGS), coordinate with the established pool of Energy Service Companies (ESCOs) to help implementation of comprehensive facility energy efficiency projects, and work with individual state agencies on technology-specific projects. DGS leverages Department of Finance Energy Smart program, along with the IOU's On Bill Financing, incentives and rebates to provide financing for project opportunities.

The State of California Partnership is a continual and collaborative effort to support DGS to manage projects for Departments without contracting authority. The State/IOU Partnership PAM continues to coordinate between the IOUs and the DGS through regular meetings to ensure that project documentation is shared as needed, projects are tracked, project momentum is maintained, new project approaches are identified, and customer concerns/support items are addressed in a coherent and sympathetic fashion.

In 2017, DGS began the lengthy process of Investment Grade Audits (IGAs) on behalf of various Departments, and worked with the Departments to scope and approve projects. The IOUs supported this effort by training the ESCO pool on IOU program requirements and processes, ensuring IGAs and project scopes included energy efficiency elements that qualify for funding assistance (through either or both enhanced OBF and enhanced incentives/rebates), and that the calculations quantifying the savings were accurate and defensible. The IOUs worked with the State to prioritize agencies that may benefit from ESCO work, both for large and pooled small buildings. While these projects are slow to unfold given various state procurement processes, they are expected to yield large energy savings upon completion.

The IOUs attended the Sustainable Building Working Group meetings, a State of California working group that consist of agency sustainability managers, with the task of planning and implementing all aspects of B-18-12, the Governor's Executive Order. The IOUs attend in a

supporting role to ensure that agency needs regarding energy data for benchmarking are met. The IOUs also use this platform for agency outreach.

## **Local Government Partnership**

SoCalGas' Local Government Partnership (LGP) is unique, complex and multi-dimensional partnership with local government customers. First, local governments are a distinct customer segment that operates with their own unique challenges and needs related to energy efficiency. Second, local governments also serve as a delivery channel for specific products and services when they serve as LGPs. Finally, local governments have a unique role as leaders of their communities. Increasingly, local governments are interpreting their responsibility for community well-being to include reducing GHG emissions, increasing renewable energy usage, protecting air quality, creating green jobs, and making the community more livable and sustainable.

The Local Government Partnership is designed to serve and support local governments by increasing energy efficiency in municipal facilities, provide programs and services to local communities that can help them reduce both operating costs, and greenhouse gas emission levels through energy-efficiency. In 2017, SoCalGas supported Partnerships in achieving their energy efficiency and climate goals. Through the energy efficiency Business Planning process, SoCalGas worked with partners to engage them in the identification of challenges faced by local governments, as well as included them in the development of Public Sector strategies. Moving forward, the Local Government Partnerships will be considered part of the Public Sector Program portfolio.

### **SCG3742 LGP-LA County Partnership**

The County of Los Angeles Partnership supports the energy reduction and environmental initiatives described in the Los Angeles County Energy and Environmental Plan, adopted in 2008, and the objectives of the California Long Term Energy Efficiency Strategic Plan (CLTEESP). Energy Efficiency projects are focused on County owned, Municipal buildings, and consisted of lighting, HVAC, Retro-Commissioning, Steam Boilers, and Savings-By-Design new construction projects at each of the 38 County departments served by Energy Management (County Internal Services Department). Additional efforts with the County Office of Sustainability include program support and coordination for Energy Upgrade California, and Strategic Plan Solicitation activities that expand the County's Enterprise Energy Management Information System (EEMIS), allowing LA County to receive participating City data for analysis to help the city to better manage their energy usage and support the identification of EE opportunities.

The Partnership participated in various successes such as, collaborated with LA County Internal Services Department (ISD) to capitalize on EE opportunities by working with representatives from the 38 County Departments served by ISD for energy management services. Partnerships worked together with ISD, Public Works and the Metropolitan Department of Transportation on strategies to develop energy savings opportunities and strategic implementation forecasts.



Additionally, the Partnership worked with LA County to determine the feasibility for completing Retro-Commissioning projects at eleven facilities and EE retrofits throughout county facilities, successfully contributing therms to the core rebate and incentive programs.

Other program successes included, the continuation of providing required data to LA County Enterprise Energy Management Information System (EEMIS) to support local governments enrolled in County offering. Lastly, the Partnership collaborated with the County Office of Sustainability to provide information to LA County departments on programs offered to improve awareness of EE incentives and rebates.

## **SCG3743 LGP-Kern Energy Watch Partnership**

Kern Energy Watch (KEW) Partnership brings together three utilities, PG&E, SCE, and SoCalGas with twelve local governments to improve energy efficiency throughout Kern County. The County of Kern serves as the implementer and coordinates the energy efficiency efforts of the County of Kern, and the cities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco.

In 2017 the Partnership continued its focus on providing useful data to partners from which they could begin to make business decisions. The Partnership continued to work with the San Joaquin Valley Clean Energy Organization (SJVCEO) to provide benchmarking services to those partners that were not able to receive the services in 2016, starting with the Cities of Arvin, Shafter and Taft. SJVCEO completed work with the City of Arvin, but due to project re-prioritization, was unable to complete work in the cities of Taft & Shafter.

At their annual Taste of Downtown Event, the implementer, in partnership with the Bakersfield Downtown Business Association, SoCalGas and Staples Energy, provided information about Staples Energy's Small and Medium Business (SMB) Direct Install services in the downtown Bakersfield area. This proved to be a great opportunity, as Staples Energy is moving forward with a focus on the restaurant segment. With over 60 SMB restaurants in the downtown Bakersfield area, Staples Energy initiated discussions about assessments and potential projects with restaurant owners.

KEW partnered with the County of Kern's 4<sup>th</sup> District Supervisor to provided energy efficiency information to residents in the City of Wasco and the unincorporated area of Buttonwillow. EE information was handed out to over 75 residents across both areas.

The Partnership held three, All Kern Partnership meetings. These meetings, while not heavily attended, provided an opportunity for partners to receive updated information on IOU programs, statewide legislation, and an opportunity to network with other municipality representatives.

Participation and staff turnover have been the major barriers in the Partnership. Also, due to budget constraints, energy efficiency has taken a back seat to higher priorities in some of the municipalities. Having continued dialogue and providing them with free or low-cost services such as benchmarking and direct install have been ways of keeping them engaged throughout the year.

## **SCG3744 LGP-Riverside County Partnership**

In 2010, the County of Riverside (County) formed a “Partnership” with SCE and SoCalGas which is intended to assist the County in achieving its green policy initiatives and formulate an integrated approach to energy efficiency. This collaborative effort aims to build an infrastructure that would efficiently deliver cost effective EE projects to reduce the “carbon footprint” created by County facilities.

The Partnership improves EE in the County’s municipal facilities, leverages utility resources, customized to the Counties unique needs, to advance EE in the partners facilities. The Partnership also supports the County in meeting CO2 reduction requirement efforts of AB32, as well as contributing toward meeting CPUC energy savings goals and objectives.

To promote growth, the Partnership held bi-monthly Partnership meetings to discuss program status, project tracking and overall program implementation and coordination issues. In addition, the partnership began developing a website to showcase partnership services and offerings to a wider audience. The partnership also conducted an audit of Southwest Detention Center, the audit results are currently pending.

The Partnership faced challenges to supporting the County with many energy efficiency retrofits because the County is determining their strategic direction and whether to implement projects through an energy service company (ESCO). Due to the loss of third party programs the county successfully used in the past, it has been difficult for them to launch new EE projects.

Although the program objectives were not met, the partnership engaged the county in various activities and conducted audits to help identify future projects as well as the installation of three boilers.

## **SCG3745 LGP-San Bernardino County Partnership**

SoCalGas joined the San Bernardino County Partnership Program in 2010 which is a continuation of the 2009 partnership between SCE and the County of San Bernardino.

The Partnership assists the County in achieving its green policy initiatives to formulate an integrated approach to Energy Efficiency. This will be a collaborative effort with the aim to build an infrastructure that would efficiently deliver cost effective EE projects thus reducing the “carbon footprint” created by County facilities. County facilities are targeted for retrofits, retro-commissioning (RCx) and new construction elements.

The partnership held monthly Management Team meetings to discuss program status, project tracking and overall program implementation and coordination issues. In addition, meetings were held regularly with project managers from various County departments to identify opportunities and provide information available on SCG resources and other core program offerings. The top county facilities with the greatest opportunity for reduction in energy consumption were identified and have been targeted for the retrofit, retro-commissioning (RCx) and new construction elements. Leveraging County management staff from various departments

including Special Districts, Sheriff, Internal Services, Library, Fire, and Project Managers in Real Estate Services – Project Management Division, has proven to be an effective means in identifying opportunities that would have not otherwise been supported by SCE or SCG programs.

Quarterly meetings were held to discuss potential EE opportunities and core objectives. The partnership worked to educate the County of San Bernardino project managers and staff on the importance and value of EE. This motivated the county’s staff to look for opportunities to reduce their operating costs by implementing EE projects and conservation practices.

Although energy audits led to therm saving projects delivered through SoCalGas core programs in 2017, the overall therm savings goal for the Partnership was not reached. However, there are a significant therm savings that have been identified in audits and are in the queue for implementation in 2018. An example of one of these therm-savings projects is a controls project at the County’s Twin Peaks facility that was identified in a joint audit.

## **SCG3746 LGP-Santa Barbara County Partnership**

There are two distinct partnerships for Santa Barbara County- South County and North County.

### *South County Energy Efficiency Partnership*

The South County Energy Efficiency Partnership includes SCE, SoCalGas, and municipal governments within the County of Santa Barbara -- including Santa Barbara County and the cities of Santa Barbara, Goleta, and Carpinteria. The program generates energy savings through identification of municipal energy efficiency projects, education and training, and marketing and outreach. Cities complete retrofits of their own facilities and conduct community sweeps as well as outreach to residential and business communities to increase participation in core programs. The partnership acts as a portal for all energy offerings including Low income, CARE, Demand Response, Self-Generation and California Solar Initiative and demand response programs are included. The Partnership provides energy information to all market segments, identifies projects for municipal retrofits, and funnels customers to existing energy efficiency programs. A local non-profit, the Community Environmental Council, provides administrative and programmatic support to the Partners.

Throughout 2017, SCEEP continued to drive city leaders, residents and businesses toward energy efficiency actions through the following activities. SCEEP partners participated in several community exhibits and outreach events in 2017. Events included participation in the Santa Barbara Earth Day Festival, with approximately 32,000 attendees, sponsorship and attendance at The Central Coast Sustainability Summit at UCSB in October, Planning and attendance of the Local Government Commission Statewide Energy Efficiency Collaborative (SEEC) conference in June, hosting a SCEEP Awards Luncheon held in May, and participation in the Goleta Lemon Festival in September.

Additionally, SCEEP continued to partner with the countywide Green Business program, a voluntary certification program supported by SCEEP. More than 90 businesses have been certified through the program.

In 2017, SCEEP continued to coordinate with the County's emPowerSBC program, which provides flexible term unsecured loans up to 15 years for home energy efficiency upgrades. Since launching in late 2011, the program has provided over 1,000 Energy Coach Site visits, which led to over 200 Contractor Reported Completed Projects.

Through SCEEP's inventive programs, rebates, and payment structures, such as on bill financing (OBF), municipal partners pursued the following projects:

- City of Carpinteria: The City updated pool lighting and flood lights through a savings by design project. Additionally, the partner updated the furnaces at the pool facilities and installed a pool cover.
- City of Goleta: Goleta achieved Platinum level in Q4.
- City of Santa Barbara: The City of Santa Barbara advanced in partnership tier level, from silver to gold. The partner completed a LED bi-level lighting project, piloted at the Granada garage, and to be expanded to other City of Santa Barbara parking lots. At Elings Park: The La Mesa pump station was decommissioned, and an additional pump was bypassed. Water controls at the park were also completed. The Police Department, Savings by Design project was completed.

Despite the efforts, the program is falling short of expectations because of serious difficulties to identify and complete energy efficiency projects.

The SCEEP partnership provided trainings available to City and County employees, builders and architects on CalGreen Standards through a one-day workshop, and Energy Audit Skills and Practices through two several day workshops. As part of ongoing Toolbox trainings, the SCEEP partnership hosted eleven Energy Manager Meetings; Energy Efficiency Outreach at Community Events and participated in four community events, including the Santa Barbara Earthday Event, The Central Coast Sustainability Summit, the Green Business Program Luncheon, and the Annual Awards and Energy Performance Luncheon.

#### *North Santa Barbara Energy Watch Partnership*

The Santa Barbara County Energy Watch Partnership is a joint effort between PG&E, SoCalGas and the Santa Maria Valley Chamber of Commerce. The Partnership's participating municipalities are Buellton, Solvang, Guadalupe, Santa Maria and the County of Santa Barbara. The program generates energy savings through identification of municipal EE projects and Direct Install projects for businesses. The program also provides education, training, marketing and outreach for all Utility Core Programs within Energy Efficiency and Customer Assistance.

The Partnership held 3 Auditing Training Workshops that were attended by municipalities and agencies. A two-day workshop was co-sponsored by the CEC, and two one-day workshops were co-sponsored by the San Luis Obispo Partnership. The partnership organized and held the 2017 Energy Efficiency and Sustainability Summit at the Santa Maria Fair park. The event featured key presenters from across the State to discuss energy efficiency, water and sustainability. It was attended by municipalities, agencies and members of the general public. The partnership coordinated 3 successful outreach events in hard-to-reach communities. The events were held in Guadalupe, Orcutt and Los Olivos. The Partnership's non-profit grant program assisted agencies

within the region to become more energy efficient. The partnership hosted a Top Staff Luncheon which was attended by representatives from all municipalities: Santa Maria, Guadalupe, Buellton, Solvang and the County of Santa Barbara as well as CEC, EmPower and other agencies. The partnership continued its collaboration with the Santa Barbara County Green Business Program, EmPower Central Coast, and other agencies and organizations to extend the outreach message of energy efficiency and sustainability. The partnership had a sponsorship presence and made presentations at events, including the Santa Maria Chamber of Commerce Annual Trade Show, and the Solvang Grow Your Community Expo.

Benchmarking and planning with cities and municipalities has proven difficult to accomplish, mostly because of municipal budgets, staff and priorities. The partnership is reengaging municipalities for 2018 and offering assistance through Civic Spark and other programs.

### **SCG3747 LGP-South Bay Cities Partnership**

The South Bay Cities Council of Governments (SBCCOG) Energy Efficiency Partnership Program provides integrated technical and financial assistance to help the South Bay Cities effectively lead their communities to increase energy efficiency, reduce greenhouse gas emissions, increase renewable energy usage, protect air quality, and ensure that their communities are more livable and sustainable. The Program provides a performance-based opportunity from SCE and access to all SoCalGas core programs and incentives for Member Cities to increase energy efficiency in local government facilities and their communities through energy saving actions.

In 2017, the Partnership exceeded the therm savings requirements for the program. Additionally, the Marketing and Outreach activities exceeded its scheduled goal this year with 68 exhibit events, eight presentations, three business expos, one city staff training, two volunteer trainings, five workshops and four overviews of SBCCOG programs. Through the various marketing and outreach opportunities, roughly 150 SoCalGas EE Kit cards were collected.

### **SCG3748 LGP-San Luis Obispo County Partnership**

San Luis Obispo County Energy Watch (SLOEW) is a partnership amongst the County of San Luis Obispo (County), PG&E, SoCal Gas, and participating Cities and Special Districts. SLOEW is a comprehensive program that provides information and energy management services to targeted customers regarding energy use and cost associated with facilities and infrastructure. This information is used to identify, finance, and implement energy and cost saving energy efficiency measures, as well as track building performance. The mission of the SLOEW Partnership is to contribute to a vibrant and resilient San Luis Obispo County through reduced energy cost, use, and demand, and decreased greenhouse gas emissions. The SLOEW Partnership's vision is to be the primary and trusted resource addressing energy and climate challenges in San Luis Obispo County. In 2017, SLOEW was engaged in two strategic plan activities: benchmarking and climate action planning.

SLOEW implements five elements, three of which focus on energy management targeting specific local government agencies. SLOEW staff work with agency staff to inventory and

benchmark the energy use and cost of building facilities and utility infrastructure on a bi-annual basis. In addition, SLOW implements a climate services program described below and a Direct Install program (with PG&E).

In 2017, SLOEW worked with many of the cities in the region to identify needs for targeted audits and energy efficiency projects including Morro Bay, Arroyo Grande, San Luis Obispo, and Paso Robles. In October, SLOEW co-hosted the Central California Energy Workshop with the San Joaquin Valley Clean Energy Organization, at the Veterans Hall in San Luis Obispo. In addition, SLOEW partnered with CivicSpark, an AmeriCorp fellowship program that increases the capacity of local government agencies to address climate change in California, to inventory and benchmark the energy use and cost of all special district building facilities and utility infrastructure. These reports were presented to various stakeholders at ten special districts in May 2017. SLOEW helped the County of San Luis Obispo complete a nearly five million dollar energy efficiency project. In 2017, SLOEW also worked with the County of San Luis Obispo to begin identifying additional energy efficiency projects to be implemented at several of its building facilities in the future. SLOEW staff supports and coordinates the County's implementation of measures identified in the County's EnergyWise Plan (EWP). Staff provides tracking and reporting of the County's progress towards its goals of reducing energy use from County facilities by 20% and overall GHG emissions by 15% from baseline levels (2006) by 2020 through monitoring of the implementation measures. In 2017, key program successes included the creation of protocol compliant community GHG emissions inventory for 2015. Working with Civic Spark fellows to identify and record community GHG emissions reduction actions completed to date.

Working in a territory with two different utilities continues to be challenging; however, SoCalGas and PG&E continue to work on getting consistency in program offerings as well as interpretation of CPUC policies.

## **SCG3749 LGP–San Joaquin Valley Partnership**

The Valley Innovative Energy Watch (VIEW) is a Local Government Partnership (LGP) between PG&E, SCE, Southern California Gas Company (SCG) and local governments in Kings and Tulare counties (Kings County, cities of Avenal, Corcoran, Hanford, and Lemoore; Tulare County, cities of Dinuba, Farmersville, Lindsay, Porterville, Tulare, Visalia, and Woodlake). The partnership is implemented by the San Joaquin Valley Clean Energy Organization (SJVCEO).

The VIEW Partnership identifies opportunities for improved energy efficiency in municipal infrastructure; offers customized incentives for municipal projects; conducts EE trainings; hosts and participates in outreach events to drive participation in core utility programs; and supports the California Long Term Energy Efficiency Strategic Plan. The Partnership supports peer best practice sharing through the Peer to Peer Working Group (P2P), the Rural Hard to Reach Local Government Partnerships' Working Group (RHTR), the San Joaquin Valley Energy Watch Collaborative (SJVEWC), and the California Energy Efficiency Coordinating Council (CAEECC) as a general member, and on the Public Sector and Cross Cutting subcommittees.

In 2017, the VIEW Partnership held three quarterly meetings in addition to eight Lunch & Learns with VIEW Partner cities. The City of Hanford completed their Energy Action Plan and the City Council accepted the document in December 2017. The City of Woodlake completed their Energy Action Plan with presentations schedule for council review and acceptance in quarter one of 2018. Lastly, the Partnership participated in twelve P2P monthly member calls/in person meetings.

### **SCG3750 LGP-Orange County Partnership**

The Orange County Cities Energy Efficiency Partnership Program includes the cities of Huntington Beach, Westminster, Fountain Valley, Costa Mesa, Newport Beach, City of Irvine and the City of Santa Ana as well as SCE and SCG. In addition to identifying and implementing EE retrofits for municipal facilities, the Partnership also funds community education, marketing, and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions. In addition, the partnership goals include strategic plan activities, such as climate action planning, updating the Energy Action Plans, code compliance, and reach codes.

Partnership activities focus on implementing energy efficiency in municipal facilities specifically, and in the community in whole. The Partnership establishes energy savings goals through energy efficiency retrofit of city-owned facilities, funded by Partnership technical assistance to identify and scope projects and enhanced incentives. The Partnership also funds community education, marketing and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions. Another key element of the partnership is the strategic plan activities where the city is supported in creating and accomplishing long term sustainability goals in climate action planning, code compliance, reach codes and other strategic plan initiatives.

The partnership had numerous achievements throughout 2017, such as outreach events conducted in the Cities of Santa Ana, Newport Beach, Irvine, Huntington Beach and Fountain Valley.

### **SCG3751 LGP-SEEC Partnership**

The Statewide Energy Efficiency Collaborative (SEEC) is an alliance between three statewide non-profit organizations, Local Government Commission (LGC), ICLEI for Local Governments, the Institute for Local Governments (ILG) and California's four IOU's. It was established to facilitate action by California cities and counties to reduce greenhouse gas emissions and save energy. The collaborative employs a variety of strategies to catalyze local climate and energy action, including education and tools for energy efficiency and climate action planning, venues for peer-to-peer networking, technical assistance to implement, track and assess the progress of cities and counties. SEEC also provides the support for participation in the Beacon Program. A key component of the Partnership is the Statewide Energy Efficiency Best Practice Local Government Coordinator (BPC) whose main priority is to track and measure local government progress for meeting the goals outlined in the CA Long Term Strategic Plan. The BPC also helps

plan and execute the Annual SEEC forum, and serves as a resource for energy efficiency and sustainability to local governments.

The usage of the SEEC ClearPath tool remains very strong, with 2017 representing the highest number of login sessions of any year for ClearPath's existence. SEEC ClearPath continues to increase its sophistication with the addition of top-down calculators to the planning module, the SEEC Resource Portal, and the SEEC Learning Management System (LMS), which offers California local governments and stakeholders continuous access to content and interactive educational opportunities.

In 2017, LGC hosted four webinars, totaling 609 registrants and 293 direct participants. LGC was the lead coordinator of the 8<sup>th</sup> Annual SEEC Forum in Fresno CA, for which a total of 281 participants attended and shared overwhelmingly positive feedback in the post-forum survey. In 2017, ILG recognized 57 local agencies who participated in the Beacon Program at the combined city-county Spotlight Awards event. ILG published and posted 35 Best Practices booklets on individual Beacon Participant Profile pages as well as produced the Beacon Award Video for viewing at League of Cities Annual Conference.

ILG also recognized SoCalGas as the Utility Partner of the Year, for their continued support of the program by securing local govt partnerships participation and a year-long pilot project with their Gateway Cities Partnership

The LMS has engaged 141 participants, who have completed 472 topic-based learning plan assignments. Leveraging LMS content and functionality, the ICLEI staff provided technical support to the first SEEC GHG emissions inventory cohort, allowing 15 cities to create new emissions inventories. ICLEI Green Button Integration to Clearpath Development Plan was completed in July 2017.

In 2017, LGC redesigned the ZNE Hub to ensure that it is easy to navigate by web users and continued to add relevant resources to keep the ZNE Hub up-to-date. The introductory resources include key 101-level resources including those developed by the CA Energy Commission and New Buildings Institute. They also provide sections on better Defining ZNE; as well as Policy Drivers related to ZNE.

In coordinating with lead members of the Statewide Codes and Standards Group, the BPC hosted a webinar aimed at developing local energy codes to increase building energy efficiency beyond current standards. The webinar provided local governments an opportunity to learn more about developing their own local "reach" codes and follow-up opportunities to receive one-on-one support with a subject matter expert from the Codes and Standards Group.

## **SCG3752 LGP-Community Energy Partnership**

The Community Energy Partnership (CEP) is a SoCalGas Local Government Partnership focused on achieving energy savings and behavior change in residential, nonresidential, and municipal sectors. The CEP's three core program elements are consistent with the SoCalGas Master Program Implementation Plan: Government Facilities, California Long Term Energy



Efficiency Strategic Plan Activities (Strategic Plan), and Core Program Coordination, and enhancing the leadership role of local governments in energy management.

In early 2017, the CEP consisted of SCG, SCE, Santa Monica, Santa Clarita, and The Energy Coalition. In response to Advice Letter (AL) 5130, the cities of Santa Clarita and Santa Monica transitioned from the Community Energy Partnership (CEP) to the WSEP in July 2017. Although CEP is a non-resource program, it does have annual therm savings targets that are achieved through municipal energy efficiency projects.

In 2017, CEP promoted SoCalGas' core programs to residents at outreach events, distributed Local Government Partnership e-blasts for Partner education and training and promoted SCG Partnership resources to the Santa Clarita staff at educational presentations. Additionally, the Partnership facilitated meetings and calls with city and utility partners and pursued audits at the Santa Monica Main Library to identify therm saving measures.

### **SCG3753 LGP-Desert Cities Partnership**

The Desert Cities Energy Partnership Program (DCEP) is a local government partnership comprised of Blythe, Cathedral City, Desert Hot Springs, Indian Wells, Palm Springs, Rancho Mirage, Agua Caliente tribe, La Quinta, Coachella, Indio, Imperial Irrigation District (IID), SCE, and SoCalGas. The program is designed to assist local governments to effectively lead their communities to increase energy efficiency, reduce greenhouse gas emissions, increase renewable energy usage, protect air quality and ensure that their communities are more livable and sustainable.

This Partnership will focus on installing measurable and persistent EE and conservation devices for the benefit of the cities, their constituencies, the State of California, and California IOU ratepayers. Partnership activities focus on implementing energy efficiency measures in municipal facilities specifically. The partnership establishes energy savings goals through city-identified projects, funded by partnership incentives and technical assistance. The partnership supports city and community EE efforts through marketing and outreach funds.

During 2017, DCEP team members attended events throughout the year to promote the work of the Partnership, the programs offered, and increase awareness about EE. The team met monthly to discuss program goals, milestones, and marketing, training, and EE projects. This meeting was rotated to different cities to encourage participation from cities that are significantly spread out. The Partnership also held working group meetings quarterly with the cities to discuss their ongoing projects. The annual Energy Summit

### **SCG3754 LGP-Ventura County Partnership**

This program works in conjunction with SCE and SoCalGas, the Ventura County Regional Energy Alliance (VCREA) continued as the Local Government "implementing partner" for the Ventura County Partnership Program. VCREA works to coordinate efforts among public agencies, including local jurisdictions, schools, and special districts, as well as businesses and residents of Ventura County. The Local Government Partnership Program's (LGP) focus is to

undertake energy efficiency projects, offer energy efficiency training, support residents through education and outreach, and consider opportunities for long-term strategic energy efficiency planning as part of the 2013-2017 program cycle. The Partnership Program has been the cornerstone of the VCREA program, providing a strong connection to public agencies and the VCREA mission.

VCREA's mission is to establish Ventura County, its communities and neighboring regions as the leader in developing and implementing durable, sustainable energy initiatives that support sensible growth, healthy environment and economy, enhanced quality of life and greater self-reliance for the region by reducing energy demand and increasing energy efficiency practices.

Throughout 2017, VCREA identified and coordinated three projects and hosted over 35 community outreach events and presentations. VCREA hosted 15 trainings and workshops that were inclusive of Title 24 regulations, HVAC contractor training and energy efficiency auditing techniques. VCREA also collaborated efforts with multi-family and low-income utility programs, Community Action of Ventura County, County Public Health, The Energy Coalition, Community Environmental Council, South County Energy Efficiency Partnership, and Local Government Commission.

Five cities from our Partnership were honored with Beacon Spotlight Awards by the Institute for Local Govt, which is a partner in the Statewide Energy Efficiency Collaborative and funded by the investor-owned utilities. These awards were for energy and GHG reductions as well as best practice sharing. VCREA continues efforts with Climate on the Move, a regional inventory of greenhouse gas emissions, and partnership with the Local Government Commission through the support of the CivicSpark fellowship program.

VCREA hosted a successful biannual reception to recognize the achievements of our partners and presented 7 awards in recognition of their achievements and efforts. A total of five cities advanced in the SCE Energy Tier Level Program resulting in current city standings to be: five Silver, two Gold, and four Platinum. In addition, VCREA received approximately \$205,000 additional Strategic Planning funding to support from Edison and SoCalGas for efforts such as regional benchmarking, Energy Action Plans (EAPs), and revolving energy efficiency loan fund.

In 2017, VCREA launched the long-awaited Ventura County Green Business (VCGB) certification program for small to medium sized local business. To be certified, participants must comply with all environmental regulations and meet program standards for saving water, conserving energy, preventing pollution, and minimizing waste.

In partnership with emPower Central Coast, VCREA provided outreach, support and educated residents on energy efficient best practices, energy rebates and incentives. Numerous community events, quarterly newsletters, and regional informational kiosks have all assisted with supporting the needs of residents and education all on efficiency and program availability.

## **SCG3755 LGP-Local Government Energy Efficiency Pilots**

In Decision (D.) 12-05-015, the CPUC authorized funding to SoCalGas for Local Government Partnerships to pilot new approaches for implementing EE. South Bay Cities Council of Governments (SBCCOG) introduced a new program in 2014, the Green Buildings Challenge (GBC) program. SBCCOG's Green Buildings Challenge program was launched in September 2015. The GBC program engages local property managers and business tenants to adopt sustainability initiatives. Through friendly competition, participants pursue hard-to-reach goals by acting on selected activities to achieve measurable energy savings results. This is a non-resource program, with all terms being delivered through the SoCalGas core programs.

Since 2015, The Green Building Challenge, with support of the SBCCOG, South Bay Environmental Services Center (SBESC), SoCalGas and SCE, accomplishments have included participation from over 175 businesses, over 700 businesses contacted, with approximately 70% of participants having participated in partner programs and Challenge activities, such as Direct Install program, energy efficiency audit, energy efficiency programs, or received rebate application support.

The Pilot faced numerous barriers in 2017 including, longer than anticipated business enrollment in the GBC. Also, the competitive aspect of the challenge was a hindrance to some businesses, as some businesses expressed concerns about poor performance with competitors. Currently, the Pilot performance is being evaluated to determine whether the concept should continue in the region and or be adopted in other areas.

## **SCG3773 LGP-New Partnership Programs**

In D.12-11-015, the CPUC authorized funding for Southern California Gas Company for the purpose of adding new Local Government Partnerships (LGP) subject to the approval of the CPUC. These new LGP's will continue to promote EUC. Deep energy retrofits were a priority in the 2013-2017 program cycle.

Expansion Opportunities include closing the gap between partnerships that currently have partnerships with SCE and adopting those partners into SoCalGas LGP programs.

## **SCG3774 LGP-LG Regional Resource Placeholder**

In D.12-11-015, the CPUC authorized the formation of the SoCalREN to implement SoCalREN's Authorized Work which includes three sub-programs, EUC Residential program, Finance program and the Southern California Regional Energy Center (SoCalREC) programs for public agencies in SCE and SoCalGas service territories. In this Program, SoCalGas serves as a Lead Utility to provide fiscal oversight, day-to-day contract management and overall monitoring of SoCalREN programs. SoCalGas also works collaboratively with SoCalREN on program coordination to achieve seamless program offerings and avoid customer confusion.

During 2017, SoCalGas and SoCalREN build on the successful program coordination and leveraging in 2016 to continue the improvement and refinement of the coordination practices.

Additionally, SoCalGas successfully maintained a secure bill file delivery system designed to provide data to utility manager systems like EEMIS (Enterprise Energy Management and Information System). The utilities and SoCalREN continue the regular project coordination and communication through various coordinating committees across many programs. Overall, the Program met its objectives for 2017.

## **SCG3776 LGP-Gateway Cities Partnership**

The Gateway Cities Energy Partnership Program (GCELP) is a local government partnership between the Cities of South Gate, Norwalk, Downey, Lakewood and Lynwood (the “Cities” or “Partners”) along with SCE and SoCalGas. The partnership program works to raise energy efficiency awareness, promote long-term energy reduction goals within municipal building stock and coordinates with partner cities to cross promote residential and business utility energy efficiency programs. In addition, the partnership program completes targeted retrofit and retro-commissioning projects in municipal facilities. Cities within the Gateway Cities are the targets of this Program.

Partnership activities focus on addressing energy usage in municipal facilities and in the community. The Partnership places great emphasis on having partners lead their communities by example; by first concentrating on their own municipal facilities. This partnership program will provide energy efficiency education, technical assistance, retro-commissioning (RCx) as well as design consultation and energy analysis of new construction and renovation project plans. Analysis of municipal facilities will be conducted to identify demand reduction projects with energy conservation measures (ECM) alternatives to optimize the energy and environmental performance of a new building design or extensive retrofit project in each of the targeted cities.

The Gateway Cities Energy Partnership provided specialized energy efficiency offerings to participating local governments, residential and business communities. Leveraging of communication infrastructure assisted in informing local communities about the wide variety of energy efficiency and demand reduction offerings available to them and encourage participation. The Partnership continued development of the program infrastructure and conducted regular monthly update meetings throughout 2017.

The Partnership participated in seven significant and well-attended partner community outreach events in 2017, with over 4,000 residents attended the Norwalk’s Community Connect Event. Additionally, the Partnership participated in the BOC Level I training for building operators, with two or more years’ experience in building operation and maintenance, who wish to broaden their knowledge of the total building system. The Cities of Lakewood and Lynwood have completed and formally adopted their Energy Action Plans which incorporated goals and objectives for future years of planned retrofit projects to reduce energy usage at municipal facilities.

## **SCG3777 LGP-San Gabriel Valley COG Partnership**

The San Gabriel Valley Energy Wise Partnership (SGVEWP) is a collaboration between the San Gabriel Valley Council of Governments (SGVCOG), SCE, and SoCal Gas (SCG). The primary objectives of the SGVEWP are as follows:

1. Identify opportunities for municipal building energy efficiency retrofits and assist cities in implementing these projects and accessing SCG financial incentives and technical resources;
2. Leverage the SGVCOG's communication infrastructure to inform member agencies about existing SCG energy efficiency, conservation and demand response programs and encourage participation; and
3. Develop specialized energy efficiency offerings to local governments as well as residential and business customers.

Overall, the Partnership's program objectives were met. The Partnership updated the SGVWP website, [www.sgvenergywise.org](http://www.sgvenergywise.org), to include recent news and events and completed a winter-preparedness outreach campaign that included social media posts, and newsletter articles. The Partnership coordinated distribution of information to member agencies by leveraging existing communication channels, including the COG's committee structure, and attended nearly 30 Marketing events in 2017. In addition, SGVEWP conducted training sessions, including an annual kick-off update, and completed construction of a database that contains information on San Gabriel Valley cities' facilities, energy usage, year built and square footage. Lastly, the Partnership initiated a campaign for outreach of the SCG ESA program, successfully providing ESA brochures to 16 WIC Centers and conduct workshops/presentations which, among other topics, provide information regarding ESA and how to register.

## **SCG3779 LGP-West Side Cities Partnership**

The West Side Energy Partnership (WSEP) is a Southern California Gas Company (SoCalGas) Local Government Partnership focused on achieving energy savings and behavior change in residential, nonresidential, and municipal sectors. The WSEP's three core program elements are consistent with the SCG Master Program Implementation Plan: Government Facilities, California Long Term Energy Efficiency Strategic Plan Activities (Strategic Plan), and Core Program Coordination, and enhancing the leadership role of local governments in energy management.

In early 2017, the WSEP consisted of SoCalGas, Culver City, and The Energy Coalition. In response to the 2016 California Public Utilities Commission direction to distribute local government partnerships regionally, Santa Clarita and Santa Monica transitioned from the Community Energy Partnership (CEP) to the WSEP in 2017. Additionally, the partnership saw the City of Beverly Hills and West Hollywood join later in the year, and looks forward to welcoming the City of Malibu joining in early 2018.

Although WSEP SoCalGas is a non-resource program, it does have annual therm savings targets that are achieved through municipal energy efficiency projects.

The partnership assisted Culver City identify savings opportunities, and funneled an Energy Management System Project to the SoCalGas custom incentive program. The partnership also promoted core EE programs to residents at outreach events, and distributed Local Government Partnership e-blasts for Partner education and training including promoting SOCALGAS Partnership resources and programs to Culver City staff. As part of the expansion of the Westside Cities partnership the Partnership coordinated and conducted recruitment meetings for cities onboarding the WSEP. The partnership also completed audits at the Santa Monica Main Library to identify therm saving opportunities, and developed a project scope. As part of the marketing efforts the Partnership developed a website to serve as a resource for cities and utility partners. The partners shared SoCalGas project highlights at Culver City and Santa Monica Council Meetings, and assisted Culver City apply for the Beacon Award and Cool Planet Awards for recognition of efforts towards energy efficiency. Midway through the 2017 program year the cities of Santa Clarita, Santa Monica, Beverly Hills and West Hollywood transitioned from the various partnerships to the WSEP.

### **SCG3783 LGP-Western Riverside Energy Partnership**

The Western Riverside Energy Partnership (WREP) is a partnership that consists of SCE, SoCalGas, WRCOG and fourteen of its member jurisdictions. The goal of the Partnership is to identify and implement energy efficiency retrofits along with promoting / incorporating best sustainable practices to residents of Western Riverside County.

In 2017, the Partnership conducted an educational tour of a local business in Riverside known as Ice Energy. Ice Energy creates thermal battery storage systems that help reduce the peak demand of air conditioning systems. Partnership staff coordinated with SoCalGas' Program Manager for development of tour flyer as well as promotional outreach to members involved in the Partnership. Attendees got to learn about Ice Energy's products and learned about a new technology that can be implemented at their facilities.

Partnership staff and SoCalGas' Program Manager conducted various outreach and one-on-one meetings with member jurisdictions. The goal of these meetings was to gain a further understanding of members energy goals as well as to continue promotion of offering that both SCE and SoCalGas provide as being enrolled in the Partnership. Partnership staff coordinated with SoCalGas' Program Manager to promote the 4<sup>th</sup> Annual Holiday LED Light Exchange Program & Energy Efficiency Kit giveaway. Residents of Western Riverside County received a no cost low flow shower head and three faucet aerators. In total, over eighty energy efficiency kits were distributed at holiday themed events during the month of December.

Implementation barriers occurred within 2017 resulting in limited representation of a few member cities. In the past, the Partnership has had some staff transitions at a few partners cities and it has been a challenge to find a new point of contact. This problem can result in limited participation at meetings, networking and outreach events.

Overall, the Partnership performed well above goal and assisted in various jurisdictions with community outreach events, project identification / audits, and continued promotion of sustainable best practices for our members in Western Riverside County

## **SCG3801 LGP- North Orange County Cities Partnership**

The North Orange County Cities Energy Partnership (NOCC), consisting of SoCalGas, SCE, cities of Brea, Buena Park, Fullerton, La Habra, La Palma, Orange, Placentia, and Yorba Linda, plus vendor implementing partner, The Energy Coalition, is a SoCalGas Local Government Partnership focused on achieving energy savings and behavioral change in residential, non-residential, and municipal sectors. The NOCC supports local governments to implement local government actions that are identified in the California Long-Term Energy Efficiency Strategic Plan (Strategic Plan).

Although NOCC is a non-resource program, it does have annual therm savings targets that are achieved through municipal energy efficiency projects. NOCC identified and claimed therm savings from a pool cover project in Buena Park and a boiler project in Fullerton generating a combined savings over 16,000 therms. The partnership promoted SoCalGas' core programs to residents at outreach events and distributed Local Government Partnership e-blasts for Partner education and training. NOCC also promoted SoCalGas Partnership resources and programs to the La Habra city staff at an educational lunch & learn. Coordinated and conducted municipal facility energy benchmarking workshop for partner cities and other public agencies. Coordinated and conducted Partnership orientation meetings with newly appointed partner city contacts. Facilitated monthly NOCC meetings and completed two audits to identify therm saving measures and developed project scope and prepared materials for the upcoming Strategic Planning energy benchmarking project. The NOCC also developed the partnership website to serve as a resource for city and utility partners.

Though the program meet its annual therm savings targets, limited opportunities for energy efficiency audit development were reported due to relatively low natural gas loads at municipal facilities.

## **SCG3802 LGP- San Bernardino Regional Energy Partnership**

The San Bernardino Regional Energy Partnership is a joint partnership with both SoCalGas and SCE with San Bernardino Council of Governments (SBCOG) as the implementer. The Partnership was approved and added to the Local Government Partnership Program for SoCalGas and SCE in April 2015. The goal of the San Bernardino Regional Energy Partnership is to provide an Energy Efficiency Partnership program to cities within the county that are not currently participating in other Partnerships through SoCalGas and who do not operate their own utilities. The Partnership will demonstrate deep energy retrofits, focusing on municipal retrofits at the 12 participating jurisdictions, which include the cities of Chino, Chino Hills, Fontana, Highland, Montclair, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Twentynine Palms, Upland, and Town of Yucca Valley.

The primary objectives for the San Bernardino Regional Energy Partnership are to promote integrated EE through identifying and assisting in the coordination of opportunities for cost-effective implementation of natural gas and electric energy-savings technologies as well as coordinate community outreach and training efforts to educate consumers and promote programs. Additionally, to identify and offer financial packages that bundle practical utility

incentives, with various monetary incentives aimed at improving the participation of residents, businesses and local government agencies.

The Partnership conducted monthly and quarterly meetings with partnering cities to discuss program goals, milestones for marketing, training, and EE projects. The Partnership participated in coordination meetings with the Regional Energy Network to identify EE opportunities and review EE progress with the cities of Chino Hills, Fontana, Highland, San Bernardino, Rancho Cucamonga, Redlands and Rialto. The Partnership used TRC Solutions for technical assistance support for the Partnership in 2017. A rebate for the City of Highland's boiler replacement was issued in 2017. EE Starter Kits were distributed at six Holiday Light Exchange events across five cities. New Partnership marketing materials were created including event flyers, table clothes and portfolio folders.

While the program did not meet its therm savings goal, the partnership continued to engage actively with partner cities and participate in multiple community events, providing each partnership city with a kiosk to display SoCalGas core programs.



## **Third Party Programs**

### **SCG3757 3P-Small Industrial Facility Upgrades**

The Small Industrial Facility Upgrades Program assists SoCalGas industrial customers in becoming more energy efficient and productive through the implementation of efficient technologies and processes. The program offers proven measures currently used in SoCalGas' Energy Efficiency Calculated Incentive Program (EECIP) and Energy Efficiency Rebates for Business (EERB) program. These measures include calculated custom process improvements as well as deemed measures as well as measures and technologies with low market penetration.

The Program was exposed to a wide variety of customers providing a large potential candidate pool for the program. Customers were reached in a variety of methods, including directly at the plant level, through corporate management, account executives, and equipment suppliers. These efforts along with a customer-centric approach has resulted in the building of strong relationships with the end use customer. Additionally, these relationships are the basis for success in the Program. The Program strives to be a trusted energy adviser for customers, which in turn leads to engagement from stakeholders required to develop new opportunities and ultimately to successful project completions. The success in building strong relationships is illustrated by the fact that over fifty percent of customers in the program have continued to work with SoCalGas on multiple projects.

The evolving requirements and expectations for documentation, especially related to influence, dampened the successful development of new projects in 2017. The Program continues to expend great efforts to develop and maintain customer engagement, despite the challenges in identifying and providing acceptable, available, documentation for custom project influence and baseline determinations.

Additionally, due to various challenges at the facility level, project installation and commissioning schedules commonly slip, which caused multiple projects to push into 2018 for estimated installation. The program is unable to control facility schedule changes, and always works closely with key stakeholders to track the projects and their installation dates. The program will continue to build the pipeline of projects to manage the risk of not meeting terms goals due to schedule changes at the facility level.

The Program changes were based on any changes made to process, eligible measures, and documentation requirements per SoCalGas program and policy guidance.

The Program successfully progressed projects from the pipeline through to the fully installed phase and paid customer incentives based on the completed projects. Additionally, the program's pipeline is closely managed, both by maintaining existing reserved projects and by continuing to develop and reserve new projects, positioning the Program for success in 2018.

## **SGC3758 3P-Program for Resource Efficiency in Private and Public Schools**

The Program for Resource Efficiency in Private and Public Schools (PREPPS) is targeted toward qualifying private institutions of learning of all levels as well as public K-12 schools in the SoCalGas service area. The goal of PREPPS is to reduce gas energy costs, greenhouse gas emissions and improve school district facility operations to enhance the learning environment.

PREPPS provides school facilities with project opportunity evaluations, energy efficiency recommendations, technical services, and cash incentives. Bonus incentives are available for customers who complete projects within a specified time-period. Incentives for deemed and calculated measures are equivalent to rates currently offered by SoCalGas' core energy efficiency programs for the same measures.

PREPPS saw many successes in 2017, for example, first quarter participation was strong compared to prior years leading to solid participation against first quarter goal. In addition, an increase in number of committed projects over the previous year and improvement in program performance based on stronger first quarter Q1. Additional effort put into enhancing vendor relationships which converted to several deemed projects and a focus on Private Religious Schools has created new relationships with expectation of project commitments in 2018. Lastly, the program developed case study marketing pieces to be published in 2018.

The program faced barriers in 2017 such as reduced number of installed projects compared with the year prior due to school project timelines. In addition, gas-only program limits accessibility to some schools that would benefit from offering a more comprehensive program that includes electric, gas, and water savings. Campuses also have significant amounts of deferred maintenance and other issues that divert attention and resources away from energy efficiency. Lastly, the complexity of custom-calculated project processes makes smaller-scoped projects not cost-effective. As a result, PREPPS has had to withdraw from small projects that do not generate the investment required to undergo a custom project.

No program changes were made in 2017. PREPPS achieved a percentage of its savings goal for 2017 while continuing to increase enrollment of new participants and maintain relationships with existing participants.

## **SCG3759 3P-On Demand Efficiency**

The On-Demand Efficiency Program (ODE) is a direct install program that decreases natural gas consumption of central domestic hot water systems with recirculation loops in multifamily buildings while maintaining occupant satisfaction with the hot water delivery. Demand controls on hot water recirculation systems turn off the recirculation pump when it is not needed, thereby reducing heat loss from the loop, boiler fire time, and natural gas consumption. This program identifies multifamily properties with central domestic water heating systems and installs on-demand controllers that are feasible for the water heating system.

In 2017, the ODE program delivered well above its target goals and showed a trend of consistently obtaining both its therm savings and dwelling unit goals. There was no noticeable slow-down in project acquisition in 2017, a trend that is expected to continue with the number of projects installed increasing year-to-year. Due to the expansion of the program's customer base and targeting of its marketing to both larger management companies as well as individual owners of apartment complexes, the program installed measures for an expanded range of customers relative to type of ownership and building size in 2017 compared to the two years prior.

During 2017, multiple changes were implemented to improve program success. One noteworthy change was the addition of a method to identify projects with hot water issues before installation wherein the return line temperature is checked prior to installation. While contractors are still working on effective implementation, this has allowed installed to gain a better understanding of which projects have legacy plumbing issues before the controller is installed. This will then allow the customer to be notified that there are plumbing issues that will need to be taken care of and controller adjustments can be made proactively.

### **SCG3760 3P-HERS Rater Training Advancement**

The HERS Advanced Rater Training Program is a SoCalGas third-party non-resource program. The program promotes, develops, and delivers training to currently certified Home Energy Rating System (HERS) raters, energy analysts, heating, ventilation, and air conditioning (HVAC) technicians, building department officials, other building trade professionals, residential homeowners, and technical students with a focus on participants involved in new and existing engineering and construction in the SoCalGas service territory. The curriculums address technical and administrative elements of energy ratings, energy efficiency standards including changes based on updated Title 24 requirements, and industry best practices.

In 2017, the Program continued to leverage its existing partnerships with venue partners including trade organizations, technical schools and state colleges, HVAC distributors and utilities. Production goals were met or exceeded.

In 2017, 55 classes were delivered. Over one thousand students attended classes during the year with an average attendance of 19.9 students per class, a slight increase in attendee average from the previous year.

A comprehensive update of the Program website was made to ensure that connectivity, browser compatibility, function and security were all up-to-date and conformed to industry standards. In addition, the website was updated with new course descriptions and marketing notices. The program improved cross-marketing of classes with venue partners and among other SoCalGas programs increased awareness and enrollment during the year. Phone outreach for classes continued to augment e-mail marketing efforts resulting in increased uptake in enrollments.

Program implementation barriers or problems encountered during the year were relatively low and were overcome. Attrition rates for some classes can be unpredictable based on numerous factors such as undeclared cancellations, inclement weather and other unforeseen conditions.

Summer month classes have historically been the most challenging to consistently fill due to the demand for HVAC technicians and other professionals in the field. In order to address this challenge, evening classes were scheduled in some instances to improve enrollment. The Program's strong relationship with technical school partners have become an integral strategy in keeping enrollment numbers strong during this period.

As mentioned above, there was a comprehensive update of the Program website to improve connectivity, browser compatibility, functionality, and marketing material. In addition, a new Diverse Business Enterprise (DBE) sub-contractor was also engaged toward the end of 2017, so the program plans to have increased DBE spend in the future.

Program objectives were met and/or exceeded in 2017. Production was steady, ahead of schedule, and successful.

The Program has evolved over the years allowing the development of relevant and timely curriculum while delivering production in a more efficient manner. The main focus is to provide students with quality training which conforms to codes and standards while adhering to Program budget guidelines. Innovative training methods encouraging hands-on participation have proved to be highly popular and effective among participants.

Larger classes have necessitated developing long-term relationships with venues which are able to accommodate increased numbers of students while maintaining a suitable and effective learning environment. Direct engagement with students through hands-on participation continues to be a strong component of the curriculum, enabling attendees to better understand and apply subject matter in their capacity as HVAC and building professionals. The Program continues to refine and improve its delivery as it determines ways to strategically and operationally align with the Workforce Education and Training goals of SoCalGas.

### **SCG3762 3P-Community Language Efficiency Outreach**

The Community Language Efficiency Outreach (CLEO) Program is a highly targeted residential energy efficiency marketing, outreach, education and training program. It specifically targets Vietnamese, Indian, Chinese, Korean, Hispanic (Spanish-speaking) and African American (VICK-HA) SoCalGas customers. The program has a unique, 100% in-language strategy which serves a key role in overcoming the English as a second language market barrier. It also targets hard-to-reach, low and medium income customers.

The program markets SoCalGas programs and offers energy efficiency education and training and participates in community events, where customers are encouraged to fill out energy efficiency surveys and sign up for free EE Kits. CLEO's marketing efforts encourage and create participation in SoCalGas energy efficiency programs. In 2017, CLEO also targeted SoCalGas customers in other Southern California Power Producers Association (SCPPA) municipal cities.

The program emphasized on working with faith-based organizations and community-based organizations, especially in Hispanic communities. This effort resulted in a participation increase of 300% in the Hispanic community as compared to the previous year.

The program also continued to reach out to foodservice business customers to educate them on SoCalGas foodservice programs and Energy Resource Center workshops. The program provided in-language assistance as required for the attendees.

The program had the most significant impact on middle to low-income customers who clearly demonstrated a stronger interest in energy efficiency program offerings. This also extended to increased participation in the incentives and services offered by SoCalGas and facilitated by CLEO - as compared to higher income customers.

In 2017, the program clearly met and significantly exceeded its program goals. CLEO provided 9 in-language seminars, 80 booths, 2 schools, 305 foodservice surveys, 1130 EE surveys and 1591 EE Kits sign-up. The program also hosted two energy education school workshops.

### **SCG3763 3P- Multifamily Direct Therm Savings**

The Multi-Family Direct Therm Savings Program (marketed as “Energy Smart”) targets owners and managers of multi-unit residential properties. The program encourages participation by providing energy efficient products and installation at no cost to the end-use customer. Marketing activities focus primarily on apartment building owners and managers.

The Energy Smart Program provided the highest level of customer service, sales outreach, and field installations in 2017. Approximately 817 sites participated in the program with 52,305 energy efficient devices installed. The Energy Smart team provided a high level of customer service, both in the office and in the field, which resulted in favorable customer satisfaction surveys. In 2017, the program received an overall satisfaction rating of 98.6 out of 100 from customers responding to a survey questionnaire generated by Medallia, 3<sup>rd</sup> party survey tool. In June 2017, the full SoCalGas service territory was released to The Energy Smart Program for installation.

The major challenge and implementation barrier in 2017 was maintaining a full installation schedule. The program faced rejection for various reasons including that sites had already been retrofitted by another contractor or sites had partnered with a contractor that could offer more items like toilets. Also in 2017, customers did not see the value in participating in the program when gas and water were cheap and California was not experiencing drought conditions. The lack of motivation in participating in conservation efforts were disappointing in 2017.

### **SCG3764 3P-LivingWise®**

LivingWise is a residential energy education and savings program delivered through schools. SoCalGas collaborated with eight different California municipalities, utilities and water agencies (Valencia Water Company, Casitas Municipal Water District, Golden State Water, California American Water Co., City of Torrance, City of Santa Barbara, Mission Springs Water District, and Moreno Valley Utilities) to implement this program.

The take-home measure installation approach to this educational program delivers increased energy literacy, optimum installation rates, and a deeper understanding of energy efficiency

concepts, including Integrated Demand Side Management (IDSM). Teachers are encouraged to implement the program in its entirety and return Student Surveys for EM&V reporting. The program optimizes energy savings and behavior change while supporting core classroom curriculum and allowing teachers to control the timing and pace of delivery.

The Program’s educational content is aligned with State Learning Standards as well as the rigorous expectations of Science, Technology, Engineering, Mathematics disciplines (STEM) and is offered to eligible teachers as an elective (supplemental) program. Teacher enrollment is high, and overall, the program participant express being highly satisfied with the program.

The program served approximately 35,000 sixth grade students as it delivered its 2017 goal. Further, SoCalGas independent customer satisfaction evaluation awarded the LivingWise program with an “Overall Satisfaction” score of 90% (nine out of 10 participants rated the program “Very Good” or “Excellent”).

The biggest program challenge is managing the varies co-sponsorships. The program partners with municipalities and issues may arise that relate to budgets and the timing of these entities’ funding availability as well as finetuning the program marketing. To finetune the program marketing collateral, the program staff worked with SoCalGas to rebrand both the kit and related educational materials to utilize SoCalGas’ trademark and logo.

### **SCG3765 3P-Manufactured Mobile Home**

The Manufactured Mobile Home Program (MMHP) is designed to provide energy efficient gas measures on a comprehensive basis to manufactured mobile home SoCalGas customers. These energy efficient measures include duct test and seal, kitchen and bathroom faucet aerators, low flow showerheads and tubspouts, and thermostatic shutoff showerheads.

In 2017, solid infrastructure, marketing strategies and certified crews resulted in steady production levels and strong overall program performance. The program team, together with the Program Advisor, worked to organize systems which maximized the program budget to provide cost effective energy savings for customers in the hard to reach sector. The program fully reported energy savings achievements in gross therms and Key Performance Indicator goals.

### **SCG3768 3P-California Sustainability Alliance**

The California Sustainability Alliance is a non-resource program of the SoCalGas designed to increase and accelerate adoption of energy efficiency by packaging it with complementary “sustainability” measures (i.e., energy and water use efficiency, renewable energy, waste management, and transportation management). In this manner, energy efficiency can be achieved more effectively and cost effectively, increasing net societal benefits and maximizing benefits to California ratepayers. The scope includes multiple activities dedicated towards (1) building demand for energy efficiency and environmental sustainability; (2) advancing and promulgating the body of sustainability best practices, tools, and techniques; (3) leveraging the collective resources of all partners - public and private; local, state, and federal; and (4)

developing educational and outreach materials to widely disseminate the body of emerging and existing best practices.

The Green Buildings portion of the program ran a student design competition in coordination with Cal Poly Pomona. In addition, it wrote a report including a case study demonstrating how health and wellness in buildings can encourage deeper penetration of energy efficiency and another a whitepaper *Making the Case for Multiyear Facility Planning in Energy Efficiency Programs*. This whitepaper had accompanying memo for SoCalGas staff with key opportunities to optimize customer relationship and achieve long-term, cost-effective energy savings. Lastly, the program updated the *Green Leasing Toolkit* and wrote an addendum to the report focused on mixed use commercial building spaces.

For the Sustainable Communities portion, the program studied the *Opportunities to Promote Sustainable Building Practices in Transit-Oriented Development in LA County* and explored their application to two specific extensions to the Metro transit system.

For Green Local Government, the program studied the integration of blue-green infrastructure into the planning efforts of edge cities, and conducted a case study exhibiting the potential for water-energy savings.

The program undertook other activities in 2017, including updating the program website and adding an archive section. The program also presented at the 2017 Municipal Green Building Conference and Expo with SoCalGas and a guest expert co-presenting material on how the increasing concern over occupant wellness interacts with sustainability initiatives. The program sponsored the Carbon Neutral Design Studio at Cal Poly Pomona School of Architecture. The program was responsible for delivering one award and developed 4 new projects.

## **SCG3769 3P-Portfolio of the Future**

The Portfolio of the Future (POF) is a non-resource program aimed at filling the gap between existing technology offerings (i.e., measures) in SoCalGas' energy efficiency portfolio and new, emerging technologies. POF seeks to enable the inclusion of emerging natural gas efficiency technologies and new business models to identify candidate natural gas applications in all sectors for possible inclusion in SoCalGas' portfolio. This entails identifying, evaluating, and demonstrating new technologies and then working to facilitate their inclusion in SoCalGas' program offerings.

In 2017, POF identified several promising measures – such as lodging occupancy controls, wireless pneumatic thermostats, and residential aereosealing – and continued work on the development of measures from past years such as ventilation load reduction and residential ozone laundry.

The primary indicator of POF program success is the number of new technologies that are brought into SoCalGas' energy efficiency portfolio, and their estimated incremental savings potential. Overall, in 2017, the program was successful in meeting its targets.

## **SCG3770 3P-PACE**

The PACE Energy Savings Project (PACE ESP) is a multi-ethnic outreach program that actively promotes the SoCalGas energy efficiency programs to its residential and small business customers. The program focuses on customers who belong to the Chinese, Filipino, Korean, Hispanic and Vietnamese communities living in Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. PACE ESP conducts its outreach efforts in the native languages of these communities to promote better understanding and increased participation in these programs.

PACE ESP met and exceeded all its target goals and tasks in 2017. Program success was attributed directly to the outreach specialists who conveyed the information directly to the community members and participated in community events. Furthermore, PACE ESP specialists conducted seminars and presentations that target community members via outreach activities in their native languages, presented energy efficiency concepts, distributed in language information materials to target communities, and coordinated with formal and information leaders of the community.

The program identified several implementation barriers in 2017 including timeliness and availability of energy efficiency and rebate application forms, as well as collateral materials needed for outreach activities.

The program made one noteworthy changes in 2017. The program reformatted the “Ways to Save Energy” survey was revised to incorporate bar codes to facilitate processing of results. The new survey format was launched in the third quarter of 2017.

In 2017, PACE ESP conducted six workshops/seminars and eight presentations and participated at 68 ethnic community events. As part of these efforts, PACE ESP made contact with over 800 small business customers and roughly 3,100 residential customers. This resulted in over 1,900 completed Ways to Save Energy surveys—formerly known as Home Energy & Water Efficiency Surveys. Lastly, the PACE ESP program enrolled over 1,500 residential customers to receive free EE kits by mail.

## **SCG3771 3P-Innovative Designs for Energy Efficiency Activities (IDEEA365)**

The Innovative Designs for Energy Efficiency Activities 365 (IDEEA365) program provides opportunities for third-party contractors to propose and implement new programs. This Energy Efficiency program design allows for a “continuous solicitation” portfolio cycle to encourage new targeted and innovative technologies, program concepts, and offerings without having to wait for a new program cycle to begin.

The program process creates a mechanism for competitive solicitations for third-party programs that may improve cost-effectiveness and helps achieve deeper retrofit savings. The “continuous” solicitation concept is promoted by offering two unique solicitation types, Targeted and Innovative. Targeted Solicitations support utility identified program gaps, market needs, and



technologies while Innovative solicitations encourage both existing and new service providers to develop and submit innovative program ideas. With the Innovative process, SoCalGas periodically offers an open Request for Abstracts (RFA) to give the providers of energy efficiency programs the opportunity to present their ideas and concepts for possible funding and implementation. In the Innovative process, upon receipt of abstracts, SoCalGas coordinates program selection and review with internal cross functional groups and an active Peer Review Group (PRG) consisting of program stakeholders to provide advisements. After reviews, scoring, and approval by internal and external stakeholders, the selected abstracts move to a second stage which requires more detailed information. For Targeted programs, the solicitation is done in a single stage with only an RFP. Scoring and selection of proposals is completed in the same way for both Innovative and Targeted solicitations. The selected programs then proceed to contracting, completion of internal and regulatory required documentation, and then funded via fund shift from the available IDEEA365 budget. All bids and communications were posted via the statewide Proposal Evaluation and Program Management Application (PEPMA) website. In 2016, PowerAdvocate was added to serve as the central point for all other Program activities such as guidelines, templates, submissions, and subsequent communications with potential bidders. Revisions to the processes and ‘lessons learned’ from prior year’s activities were constantly evaluated and implemented to the extent possible for future solicitations. The ongoing challenge of the program solicitation process is developing and implementing a process that is expedient while still ensuring a consistently ‘level playing field’ with a transparent, methodical evaluation process at all stages.

Similar to 2016, circumstances of 2017 were driven primarily by outside initiatives including AB802, AB793, and approved Advice Letter required changes to program activities. The program staff was utilized to work with a cross cutting team of stakeholders outside of the Third-Party program portfolio to plan, lead, and complete the following solicitations:

- AB 802 – HOPPS Commercial Restaurant Retrofit program
- AB802 – HOPPS Central Water Heating Multi-Family Building Solutions Program
- AL4950 –Small Business Direct Install: Small Business Gas Solutions program
- AB793 Commercial Energy Management Technology program
- AB793 Residential Energy Management Technology program

At the end of 2017, these program solicitations were at various stages of evaluation, selection contracting, and implementation.

In addition to the solicitation activities, work to identify program gap and market potential analysis was another area of effort. It was determined that this effort was important to more efficiently identify and pursue new EE third party programs. During this process, it also became a resource that contributed to the 2017 Business Plan and rolling portfolio efforts

The solicitation process went through an extensive review and redesign during 2017. The goal was to evaluate the process, design a more systematic approach for program solicitations and establish procedures, templates, supporting documents, and other resources so the entire process

## **SCG3793 3P-IDEEA365-Instant Rebates! Point of Sale Foodservice Rebate**

The Instant Rebates! Point-of-Sale Foodservice Rebate Program (Instant Rebates) enables non-residential SoCalGas end-use customers to receive point-of-sale (POS) rebates when they purchase eligible, high-efficiency equipment from participating vendors. Equipment vendors receive a sales incentive for every piece of eligible high-efficiency equipment for which they submit an online rebate application. Sales incentives are designed to offset a portion of vendors' administrative burden, financial carrying costs of fronting rebates to customers and overhead associated with stocking and selling more high-efficiency equipment. The Program Implementer provides turnkey program implementation services to SoCalGas for Instant Rebates.

For 2017, the program had highly favorable customer ratings. In addition, the program enrolled eight new vendors and re-enrolled seven vendors that had little to no participation in the previous year. Increasing program participation resulted in participating vendors making changes to their stocking and sales practices to meet new demand for rebate-eligible equipment and that customers increasingly asked for high-efficiency equipment because of program incentive awareness.

The program encountered some unique challenges in 2017, namely from regulatory changes. For example, several workpaper revisions resulted in reduced therm savings for several measures. Changes to claimed savings within same year causing an adjustment to program rules created a sudden surge of participation resulting in drastic reduction of available incentives.

Several program changes were made in early 2017 to address slow program growth and limited participation. For example, new eligibility and scope changes were implemented to stimulate participation. Improvement were also made to the inspections process to appropriately target specific measures.

Overall, the program exceeded its original annual savings goal as well as its Diverse Business Enterprises spending commitment. The program also decreased the payment time to participating vendors from fourteen-days to eight. As mentioned above, the program enrolled eight new and re-engaged seven non-participating vendors to expand the program's geographical coverage to a total of thirty-two vendor stores are enrolled in Instant Rebates.

## **SCG3796 3P-IDEEA365-On-Demand Efficiency for Campus Housing**

The On-Demand Efficiency for Campus Housing Program (ODECH) addresses a method of decreasing the natural gas consumption of central domestic hot water systems with recirculation loops in campus housing buildings while maintaining occupant satisfaction with the hot water delivery. Demand controls on hot water recirculation systems turn off the recirculation pump when it is not needed, thereby reducing unnecessary heat loss from the loop, reducing the boiler fire time, and thus reducing the natural gas consumption. ODECH finds potential sites and installs on-demand controllers that are appropriate for the water heating system, sustainable, save natural gas and electricity and reduce greenhouse gases by burning less natural gas for water heating while maintaining occupant satisfaction with the hot water delivery.

In 2017, the ODECH program met dwelling unit goal. The overall sales continued to show change for 2017 resulting in the program meeting goal. The program staff sent out emails monthly which contributed to an increase in program enrollments and overall awareness of the program.

### **SCG3797 3P-IDEEA365-Energy Advantage Program for Small Business**

The Energy Advantage Program (EAP) is a non-resource third party energy efficiency program selected by SoCalGas through the IDEEA365 for 2014-2015, extended through 2017. EAP is designed to educate hard to reach, small and medium business customers about energy savings opportunities, to support installation of incremental cost-effective energy efficiency projects, and to achieve savings for SoCalGas through facilitating rebates and incentives for energy efficiency measures.

In 2017, the program implementer enrolled and delivered turnkey program services to sixteen (16) small and medium business customers including hotels, commercial (offices, entertainment), restaurants facilities and a refrigerated warehouse. Energy audits were performed and presented, which identified both therm savings, and kWh savings for those audits co-funded by Los Angeles Department of Water and Power to address electric savings.

As a result of implementation support services, including rebate and incentive support and referrals to available programs, EAP delivered therm savings through the Energy Efficiency for Rebates Program and kWh savings through electric measures implemented or currently being implemented and incentivized through Los Angeles Department of Water and Power (LADWP). EAP expended program costs to DBE subcontractors, leading the program to exceed the Diversity Business Enterprise (DBE) goal of 38% for 2017.

In 2017, SoCalGas and the Program Implementer agreed to add the ability to perform program services for non-profit facilities which had previously been ineligible for services. The Program Implementer performed outreach to all customers who had engaged with the EAP program to ensure that all projects were captured for reporting purposes and to educate them about available support resources for any additional questions. Though EAP did not meet the performance goals, the program did market to lenders and partners by holding branch-wide workshops and trainings.

### **SCG3798 3P-IDEEA365-Connect**

The Connect Program (Connect) is a non-resource third-party developed program which utilizes a portfolio approach to energy efficiency to develop a long-term energy savings pipeline to establish Commercial Real Estate (CRE) and utility relationships that result in beneficial situations for both CRE and utility stakeholders. Connect leverages relationships with the top CRE property management firms in SoCalGas' territory to gain the data and building access required to successfully engage the CRE market. Any potential energy savings are routed back through SoCalGas energy efficiency resource programs for rebates, incentives, and tracking and reporting of them savings.

In 2017, the Program had significant reach within SoCalGas' territory and achieved three key successes. The program met or exceeded key performance indicators for benchmarking, program enrollment, building assessment, business cases, signed installation agreements and therm savings. The program also converted energy conservation measures (ECMs) identified in past years, demonstrating the benefit of a multi-year program and onboarded two new CRE partners.

The CRE market is a unique industry with multiple stakeholders and varying value propositions based on an individual's role in the industry. As a result, energy efficiency projects face unique barriers that the Connect program must address. For example, the City of LA implemented a new ordinance (Benchmarking and Los Angeles Existing Buildings Energy and Water Efficiency), requiring properties larger than 20,000 square feet to benchmark and report electric, gas and water consumption to the city of LA, which forces buildings located in LA to benchmark, reducing the value of a Connect benchmark. Another challenge is that commercial property owners and managers view electric and gas utilities as a single expense line item that should be managed in concert. Connects focus on gas only audits and efficiency support is in some instances turned down because it lacks a review of electric measures, which account for most of utility costs. Lastly, there is some uncertainty of full program participation timeline. The CRE industry is focused on risk mitigation and is unlikely to participate in any program without a full understanding of the costs, benefits, and timing of that program from the onset.

The program made some noteworthy changes in 2017. The program added a project tracking software to further improve project follow-up with customers who underwent an energy audit through the Connect Program. The program also coordinated with local trade organizations to promote the Connect Program to their membership. Last of all, the program developed a deep database of buildings to use for benchmarking for future program participants.

### **SCG3799 3P-IDEEA365-Historical Building Energy Efficiency**

The Historic Building Energy Efficiency Program (HBEEP) is a residential non-resource program focused on energy efficiency upgrades to historic single-family homes. HBEEP addresses a gap in targeting a unique building portfolio that includes older single-family homes located in designated historic building districts within the SoCalGas service territory. This customer base is typically constrained by specific building alteration guidelines aimed to preserve neighborhoods with distinct architectural and cultural characteristics. HBEEP's model is designed to assist homeowners of historic buildings learn how restoration and preservation activities can be combined with energy efficiency upgrades. The program model is also designed to provide mentoring and training to home performance contractors. The strategy of the program is to initially target owners/buyers of pre-1940 homes located in designated historic building districts such as the City of Los Angeles' designated Historic Preservation Overlay Zones (HPOZs) and enroll customers in SoCalGas' energy efficiency rebate and incentive programs (e.g., Energy Upgrade California® Home Upgrade).

In 2017, program implementation activities continued based on HBEEP's original program design. Minor changes were implemented to improved efficiencies and reduced administrative burdens. Program implementation activities resulted in the following:

Seventeen Home Upgrade participating contractors received training/mentoring specifically in restoration construction and historic preservation. HBEEP Participating Contractors conducted a total of 48 home energy audits and provided 48 historic homeowners participating in the SoCalGas Energy Upgrade California Home Upgrade Program with home energy assessments. Twenty-two of these homeowners received a comprehensive advanced home energy assessment, while twenty-six received a Home Performance with Energy Star home upgrade assessment. In addition HBEEP participating Contractors conducted a total of 19 home energy audits and provided 16 homeowners with a comprehensive advanced home energy assessment and 3 homeowners with a Home Performance with Energy Star home upgrade assessment.

HBEEP is heavily affected by Energy Upgrade California Home Upgrade Program requirements, changes, and incentive budget restrictions

### **SCG3800 3P-IDEEA365-Clear Ice**

Clear Ice is a turnkey gas savings energy efficiency program for SoCalGas customers' new and existing ice rinks. It offers a calculated incentive on an industrial vortex technology called REALICE. With this technology, water used for ice making and resurfacing no longer needs to be heated to from 120°F – 160°F and ambient un-heated water at approximately 60°F can be used.

REALICE is a relatively new technology in the United States and there is a need to conduct targeted and repeated communications to each rink's decision makers including both rink operators and rink owners. One key market barrier is to modify an entrenched behavior by the rink operators whose normal practice is to use heated water heated for ice resurfacing. To modify this behavior, a technical description of how and why the technology works, total savings, and other program adopters are just some of the talking points presented to the rink owners and operators.

Currently, only one customer has installed this technology. Additional customers have indicated an interest in the technology based on the return on investment, combined incentives and the increasing program uptake. Program staff will continue to pursue potential cliental, present ongoing customer training, develop marketing materials and conduct outreach presentations to all rinks in the SoCalGas service territory.

### **SCG3804 3P-IDEEA365-On-Premise Ozone Laundry (OPOL)**

The On-Premise Ozone Laundry (OPOL) program targets small to medium sized hotels, fitness and health centers (including nursing homes, convalescent homes, hospices and hospitals) with 250 or fewer rooms and an on-premise laundry operation. The program installs ozone laundry technology in customer's on-premise laundry facility. Ozone technology provides cleaning and disinfection capabilities, is most effective in cold water, and shortens the wash cycle thereby eliminating the need for hot water and decreasing the total gallons of water per load. This program thus reduces natural gas, electricity, and water consumption for the customer.

The program has adjusted the marketing strategies and personnel resources, which has resulted in a steady increase in program performance and participation. The program has also encouraged the development and leveraging of market relationships that have resulted in a collaborative effort in introducing ozone technology as an effective energy efficiency measure. These partnerships will lead to greater therm savings potential due to greater market penetration.

The program has faced challenges working with some customers who are also customers of a leading laundry material company. The successful implementation of the ozone technology into the market sector reduces the need for certain materials in the laundry process, thus reducing the amount of product customers have historically purchased. Due to the negative impact on the product suppliers, the program has been faced with delayed responses and lack of availability to make the required material adjustments in the laundry process.

Additional barriers to program implementation centers around current rebate limitations relative to project costs. Smaller business owners are the most difficult to reach because they often lack the washer size capacity in their on-premise laundry facility to qualify for significant project cost reductions. This is due in part to the current rebate structure of per pound of washer capacity, which normally results in a larger cost-share for the smaller hard-to-reach customer.

The program has adjusted its outreach and implementation based on continuous feedback and monitoring of marketing and sales to continually deliver success. The program has also made refinements to reporting and invoicing processes to improve data management, reporting, and overall program efficiency.

The program has successfully introduced and educated the targeted sector customers on the innovative ozone technology. Customer interest, participation and enrollment have steadily increased throughout the implementation period. Additionally, post-installation maintenance and service visits have ensured continuous program participant satisfaction as well as the continued use of the technology.

## **Water Energy Nexus**

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In 2017, SoCalGas has continued its diverse offering of programs that educate on water savings, delivering energy savings measures associated with the savings of hot water, as well as partnering with water agencies for cross-promotion. SoCalGas worked jointly with the other investor owned utilities (IOUs) and stakeholders in planning toward the improvement of tools and protocols regarding water energy. Through Decision (D.)17-12-010, the recommendations of the IOUs regarding these improvements were adopted. Further, through this decision the CPUC determined that the Water Energy Nexus rulemaking (R.13-12-011) be closed to address remaining issues in the other identified forums and appropriate rulemakings.

### **Water Energy Nexus Cost Calculator**

As directed in D.16-12-047, the Joint IOUs developed a Plan of Action to update the Water Energy Nexus (WEN) Embedded Energy Cost Calculator (Water-Energy Calculator). This Plan of Action addressed the three updates required by the D.16-12-047 and provides next steps to implement the necessary changes. Within that plan, results of the study commissioned by SoCalGas to determine the value representing the natural gas embedded in the water system were determined for the Water-Energy Calculator. The Commission's W-E Calculator currently utilizes a default value of zero for gas intensity and does not calculate embedded energy savings for natural gas. This study confirmed that while there is much less natural gas used for water sector purposes, the number is not "zero" and recommended that a default value not be prescribed for statewide use.

### **Shared Network Advanced Meter Infrastructure Pilots**

The WEN Shared Network Advanced Metering Infrastructure (AMI) Pilots<sup>5</sup> were established in 2016 to develop and refine the identification of potential hot water leaks based on analytics of both gas and combined water and gas usage data, and to evaluate the potential benefits associated with hot water leak detection and resolution. The WEN Shared Network AMI Pilots allow for water utilities to leverage the existing SoCalGas Advanced Meter Infrastructure (AMI) network to collect and transmit hourly water usage data, which is used in the analytics effort. Two separate Commission-regulated water utilities and a 3rd party analytics vendor are conducting these efforts.

The WEN AMI Pilots have been driving to achieve the following program goals: (1) network piggybacking, (2) combined utility data analytics for hot water leak detection, and (3) determining energy savings from reduced water loss. Both of the WEN AMI Pilot participants are in the process of completing the analytics efforts for the third goal along with the AMI WEN Pilot final report in 2018.

### **Water Utility Partnering Activities**

SoCalGas has maintained several water-energy nexus activities and partnerships. In 2017, SoCalGas continued its partnership with Los Angeles Water and Power (LADWP) and Los Angeles Metropolitan Water District (MWD) to co-deliver water energy nexus activities. These activities include the Energy Smart Landscape seminars co-taught with MWD. SoCalGas also utilized its current programs and partnerships to expand future water energy partnered offerings. One such example is the Commercial Restaurant Retrofit program, in which MWD funds calculated water savings incentives. Another example is SoCalGas' partner program with MWD where low income customers receive water savings rebates from MWD through SoCalGas' ESA low income program. The LADWP/SoCalGas water energy nexus partnership continued its successful achievements through its direct install activities, one such activity installed various water energy measures in the multi-family segment.

SoCalGas continued its LivingWise® residential energy education and savings program. LivingWise® is a school-delivered residential program that is sponsored through collaboration

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<sup>5</sup> D.15-09-023, Advice No. 5014, Advice No.4992-A.

between SoCalGas and 12 different California municipalities or water agencies. In 2017, the LivingWise® program involved sixth grade students, teachers and households reaching households to install and educate water energy activities.

### California Sustainability Alliance

In 2017, the California Sustainable Alliance, created a report that provided an overview of blue-green infrastructure strategies, best practices, and barriers to inform city planners and other governmental officials on how to integrate blue-green infrastructure into their city efforts. The intent was to inform edge cities about blue-green infrastructure through a case study with the city of Morro Bay, which serves as a success story of how edge cities can become more urbanized while growing in harmony with the environment. Edge cities are defined as cities outside of a major metropolitan area that are becoming more urbanized as that area expands. The report also highlights opportunities for utilities to engage with city planners to break down barriers to implementing blue-green infrastructure projects.

Blue-green infrastructure combines two key concepts that are becoming increasingly important as cities aim to contribute to the State’s climate change-related objectives: energy efficiency and sustainability. Blue-green infrastructure includes strategies that allow cities to work in harmony with the environment, become more resilient to droughts and floods, and save energy in the process.

### Other Water Energy Related Program Activities

In 2017, SoCalGas continued its offering of energy efficiency measures that can achieve direct water savings to residential and non-residential customers. In addition, many of these measures received approval through the Energy Division’s *Ex Ante* Review team for use with the W-E calculator to report embedded energy savings. These measures are listed in the table below:

EE Program Sector	Measures Offered that Achieve Direct Water Savings
Residential	Auto-Diverting Tub Spout with Thermostatic Shut-off Valve
	High Efficiency Clothes Washer*
	Low Flow Showerhead*
	Residential Faucet Aerator*
	Thermostatic Shower Valve*
	Water Savings Kit*
Non-Residential	Commercial Faucet Aerator*
	Gas Combination Oven*
	Gas Pressureless Steamer*
	Laminar Flow Restrictor
	Low Flow Pre-Rinse Spray Valve*
	Ozone Laundry

\*Measures with approved embedded electric energy savings



SoCalGas plans to expand its offer of EE measures which can achieve direct water savings to residential and non-residential customers in 2018 through the development of new deemed EE savings measure workpapers.

## **Budget**

Program expenditures are not broken out by measure or by water energy related activities and rather are included in the overall expenditures listed in Appendix B.1, Updated Monthly Report, for the following programs listed below:

<b>Program</b>
SCG3702 RES-Plug Load and Appliance
SCG3703 RES-Plug Load and Appliances - POS
SCG3705 RES-Home Upgrade Program
SCG3707 RES-RNC
SCG3711 COM-Deemed Incentives
SCG3761 3P-MF Home Tune Up
SCG3763 3P-MF Direct Therm Savings
SCG3764 3P-Livingwise
SCG3765 3P-Manufactured Mobile Home
SCG3793 3P-IDEEA365-Instant Rebates!
SCG3805 COM-Direct Install Program
SCG3806 AMI Water Pilot

## **SECTION 1 ENERGY SAVINGS**

The purpose of this table is to report the annual impacts of the Energy Efficiency portfolio of programs implemented by SoCalGas for the 2017 year. The annual impacts are reported for 2017 in terms of annual and lifecycle energy savings in natural gas savings in MMTh (million therms). The report shows annual savings (Installed Savings) that reflect installed savings, not including commitments. The values in the Installed Savings column include savings from the Low-Income Energy Savings Assistance Program, and Codes and Standards work (Low Income ESA and C&S savings are broken out as separate line items in Table 6 - Savings by End-Use).

Table 1

A	B	C	D
<b>Table 1:</b>			
<i>Electricity and Natural Gas Savings and Demand Reduction (Gross)</i>			
Annual Results	2017 Installed Savings [1]	CPUC 2017 Adopted Goals (D.15-10-028)	% of Goals (2017)
<i>2017 Energy Savings (GWh) – Annual</i>	11.8		
<i>2013-2017 Energy Savings (GWh) – Annual</i>	48.9		
<i>2017 Energy Savings (GWh) – Lifecycle</i>	133.7		
<i>2017 Energy Savings (GWh) – Lifecycle</i>	604.4		
<i>2017 Natural Gas Savings (MMth) – Annual [2][5]</i>	39.5	30.3	130%
<i>2013-2017 Natural Gas Savings (MMth) – Annual [2]</i>	154.2	132.0	117%
<i>2017 Natural Gas Savings (MMth) – Lifecycle [3]</i>	138.0		
<i>2013-2017 Natural Gas Savings (MMth) – Lifecycle [3][4]</i>	1,021.8		
<i>2017 Peak Demand savings (MW)</i>	5.0		
<i>2013-2017 Peak Demand savings (MW)</i>	23.2		

[1] Results from activity installed in 2017.

[2] Includes savings associated with Low Income Energy Savings Assistance and Codes and Standards programs.

[3] Does not include lifecycle savings associated with SoCalREN and Codes & Standards programs for 2017.

[4] Does not include lifecycle savings associated with SoCalREN, Low Income Energy Savings Assistance, and Codes and Standards programs for 2013, 2014, and 2015.

[5] Gross Codes & Standards program savings for 2017 includes savings from market effects (5%) as calculated in CEDARS. Gross Codes & Standards program savings without market effects is 24,469,088 therms.

## **SECTION 2 EMISSION REDUCTIONS**

The purpose of this table is to report the annual incremental environmental impacts of the Energy Efficiency portfolio (for both electricity and natural gas) of programs implemented by SoCalGas during the 2017 program year. Parties agreed that the impacts should be in terms of annual and lifecycle tons of CO<sub>2</sub>, NO<sub>x</sub>, and PM<sub>10</sub> avoided and should come from the cost-effectiveness tool.

Table 2

A	B	C	D	E	F	G
<b>Table 2:</b>						
<i>Environmental Impacts (Gross)</i>						
Annual Results	Annual tons of CO2 avoided	Lifecycle tons of CO2 avoided	Annual tons of NOx avoided	Lifecycle tons of NOx avoided	Annual tons of PM10 avoided	Lifecycle tons of PM10 avoided
<b>2017 Portfolio Targets [1]</b>						
2017 SoCalGas Total [2][4]	404,821	5,408,728	627,289	8,399,677	925	10,519
<b>2013-2017 SoCalGas Total [3][4]</b>	<b>1,285,722</b>	<b>17,912,300</b>	<b>1,924,410</b>	<b>26,789,406</b>	<b>4,532</b>	<b>56,361</b>

[1] SoCalGas' Compliance Advice Letter 4449-G, 4449-G-A, and 4449-G-B, filed January 13, 2013, April 23, 2013, and May 29, 2013, respectively and approved by the Commission on June 12, 2013 established SoCalGas' gas emission reduction targets for the 2013-2014 program cycle. SoCalGas' Compliance Advice Letter 4725 approved by the Commission on January 26, 2015 established SoCalGas' gas emission reduction target for the 2015 program year. SoCalGas did not file a compliance filing for 2016 and does not have portfolio targets assigned for 2016. Portfolio targets were not established for 2017 in SoCalGas' Compliance Advice Letter 5023-A, approved June 8, 2017.

[2] Results from activity installed in 2017 only.

[3] Results from activity installed in 2013-2017.

[4] Environmental impacts do not include any impacts associated with SoCalREN or Low Income Energy Savings Assistance programs.

## **SECTION 3 EXPENDITURES**

The purpose of this table is to report the annual costs expended by SoCalGas in implementing the 2017 Energy Efficiency portfolio. The report is broken out into the Administrative Costs, Marketing/Education/Outreach Costs, and Direct Implementation Costs categories for the following program classifications: 1. IOU Programs, 2. Local Government Programs (Partnership Programs), 3. Third Party Programs (Competitive Bid Program), and 4. EM&V reported for IOU and Joint Staff individually. The next set of expenditures represents budget and expenditure dollars outside of portfolio: 1. SW ME&O, 2. OBF/Revolving Loan Pool, and 3. Energy Savings and Assistance Program (ESA).



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RUL	Program ID	Program Name (Add rows to include all programs)	Program Implementer (Use Drop Down Menu)	Primary Sector (Use Drop Down Menu)	ES&F Program Category (Use Drop Down Menu)	Delivery Channel (Use Drop Down Menu)	Authorized Forecast Budget		Total 2017 Expenditures (broken out by budget year funding source)												
							2017 Adopted Budget (GA, AA, SGA, A, AS, SA, S, SS, C, CS, D, DS, DS1, D1, D1.1, D1.2, D1.3, D1.4)	2017 Administrative Cost (Amount as per Budget Admin Letters)	Administrative			Direct Implementation				PA Administered MEKO		EMV MEKO	EMV		On Bill Financing Loan Pool
							2017 Equivalency from 2017 Budget	2017 Equivalency from 2017 Budget	Non-RU Implementer		ROI	Non-Incentive		Incentives & Rebates		2017	2017		2017	2017	
							2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017
<b>RES and C&amp;A (Non-ROI Programs)</b>																					
SCU	SCU3784	SoCalBEN - Home Upgrade Program	SCNCCA	Commercial	Not Applicable	Not Applicable	3,169,025														
SCU	SCU3785	SoCalBEN - Finance	SCNCCA	Commercial	Not Applicable	Not Applicable	417,353														
SCU	SCU3786	SoCalBEN - Direct	SCNCCA	Commercial	Not Applicable	Not Applicable	750,000														
		<b>Subtotal</b>					80,355,572	8,118,983	896,207	7,962,439	20,538,691	2,824	31,178,189	4,819,092				449,627			
SCU	SCU3772	EMV - SOU					7,926,023	2,427,744													
SCU	SCU3773	EMV - CPUC Staff					2,427,257	620,353													
SCU		EMV Loan Pool																160,000			
		<b>Total EE Portfolio Expenditures</b>					83,763,499	11,466,912	886,207	7,962,439	20,538,691	2,824	31,473,189	4,819,092				36,899			
SCU	SCU3733	AW (M&E) (Energy Efficiency activities only)					1,829,843														
SCU	SCU3734	AW (M&E) (Energy Efficiency activities only)																			
SCU		Energy Storage Assistance Program (ESAP)																			
SCU		Finance Fees (1)																			

[1] Expenditures exclude of the portfolio total  
 [2] Includes budget and expenditures associated with SoCalBEN.  
 [3] In accordance to the 2017 Annual Report, a constructive journal entry was completed for SCU3805 in April 2018 to include \$79,634,311 of expenditures that were identified as direct implementation incentives.  
 [4] Additional program expenditures for duration programs are listed below for December 2017 Accrual that were posted to a high-level corporate cost center:  
 Page Name Adjusted Amount  
 3762 RES - Plug Load Appliances 85,247.55  
 3763 RES - Plug Load Appliances - PDS 25,250.00  
 3766 RES - Home Upgrade Program 115,480.00  
 3766 RES - Residential HVAC 3,650.00  
 3766 COM - Energy Advisor 6,454.50  
 3710 COM - Calculated Incentives 489,372.49  
 3711 COM - Decoupled Incentives 4,204.50  
 3715 IND - Calculated Incentives 217,251.53  
 3718 IND - DSM 1,950.00  
 3718 FIN - On Bill Financing 1,950.00  
 3727 FIN - New Financing Offerings 24,202.44  
 3772 EMV - Evaluation, Measurement & Verification 10,424.32  
 3803 SW - FIN - California Hub for EE Financing 133,624.24



## **SECTION 4 COST-EFFECTIVENESS**

The purpose of this table is to provide an annual update on the cost-effectiveness of the portfolio of programs being implemented in the 2017 program year. The targets above are at the portfolio level, so an annual average is used in order to compare the current annual estimates of cost-effectiveness with the cost-effectiveness levels that were estimated at the time the portfolios were adopted. The report includes the SoCalGas results and goals.

Table 4

A	B	C	D	E	F	G	H	I	J
<b>Table 4:</b>									
<i>Cost Effectiveness (Net)</i>									
Annual Results	Total Cost to Billpayers (TRC)	Total Savings to Billpayers (TRC/PAC)	Net Benefits to Billpayers (TRC)	TRC Ratio	Total PAC Cost	PAC Ratio	PAC Cost per kW Saved (\$/kW)	PAC Cost per kWh Saved (\$/kWh)	PAC Cost per therm Saved (\$/therm)
2017 Total [2][8][9]	\$ 199,814,588	\$ 348,287,043	\$ 148,472,455	1.74	\$ 63,820,888	5.46	N/A	N/A	\$ 0.30
2013-2017 Total [3][4][5][6][7]	\$ 738,216,720	\$ 1,051,670,887	\$ 313,454,167	1.42	\$ 328,186,221	3.20	N/A	N/A	\$ 0.31

[1] SoCalGas' Compliance Advice Letter 4449-G, 4449-G-A, and 4449-G-B, filed January 13, 2013, April 23, 2013, and May 29, 2013, respectively and approved by the Commission on June 12, 2013 established the cost-effectiveness of SoCalGas' 2013-2014 portfolio. SoCalGas' Compliance Advice Letter 4725 approved by the Commission on January 26, 2015 established the cost-effectiveness of SoCalGas' 2015 program year. SoCalGas did not file a compliance filing for 2016 and does not have portfolio targets assigned for 2016. Portfolio targets were not established for 2017 in SoCalGas' Compliance Advice Letter 5023-A, approved June 8, 2017.

[2] Results from activity installed in 2017 only.

[3] Results from activity installed in 2013-2017.

[4] Includes SoCalGas' 2013 shareholder incentive payment of \$3,075,647, submitted in AL 4542 and approved by the Commission on December 11, 2013.

[5] Includes SoCalGas' 2014 shareholder incentive payment of \$5,824,913, submitted in AL 4661 and approved by the Commission on December 18, 2014.

[6] Includes SoCalGas' 2015 shareholder incentive payment of \$4,153,869, submitted in AL 4826 & AL 4859 and approved by the Commission on December 3, 2015.

[7] Includes SoCalGas' 2016 shareholder incentive payment of \$3,538,297, submitted in AL 5024 and approved by the Commission on December 15, 2016.

[8] Includes SoCalGas' 2017 shareholder incentive payment of \$852,892, submitted in AL 5024 and approved by the Commission on December 18, 2017.

[9] Does not include costs and benefits associated with Low Income Energy Savings Assistance Programs, Emerging Technologies Programs, and SoCalREN.

## **SECTION 5 BILL PAYER IMPACTS**

The purpose of this table is to report the annual impact of the energy efficiency activities on customer bills relative to the level without the energy efficiency programs, as required by Rule X.3 of the Energy Efficiency Policy Manual version 5, adopted in D.05-04-051.

Table 5

A	B	C	D	E
<b>Table 5:</b>				
<i>Ratepayer Impacts</i>				
	<b>Electric Average Rate (Res and Non-Res)</b>	<b>Gas Average Rate (Core and Non-Core)</b>	<b>Average First Year Bill Savings (\$)</b>	<b>Average Lifecycle Bill Savings (\$)</b>
<b>2017</b>	<b>\$/kwh</b>	<b>\$/therm</b>		
SCG	N/A	\$1.08	\$42,679,905	\$149,109,797

[1] SoCalGas' 12-month residential weighted average transportation rate for 2017 is \$0.72143 per therm.

[2] SoCalGas' 12-month average procurement rate in 2017 was \$0.35895.

[3] Ratepayer impacts are derived from 2017 gross savings accomplishments and the average rate.

[4] The average First Year Bill Savings are calculated by the 2017 first year savings multiplied by the Gas Average Rate.

[5] The average Lifecycle Bill Savings are calculated by the 2017 lifecycle savings multiplied by the Gas Average Rate.

## **SECTION 6 SAVINGS BY END-USE**

The purpose of this table is to show annual portfolio savings by Residential and Non-Residential end-uses and those savings attributable to the Low Income Energy Savings Assistance Program, and Codes and Standards work.

Table 6

A	B	C	D	E	F	G
<b>Table 6:</b>						
<i>Annual Savings By End-Use 2017 Only [1][2]</i>						
Use Category	GWh	% of Total	MW	% of Total	MMTh	% of Total
Appliance or Plug Load	1.46	12%	0.31	6%	0.54	1%
Commercial Refrigeration	0.00	0%	0.00	0%	0.00	0%
Codes & Standards	0.00	0%	0.00	0%	27.36	69%
Food Service	0.00	0%	0.00	0%	1.60	4%
HVAC	4.71	40%	2.91	58%	0.87	2%
Irrigation	0.00	0%	0.00	0%	0.02	0%
Lighting	-	-	-	-	-	-
Non-Savings Measure	0.00	0%	0.00	0%	0.00	0%
Process Distribution	-	-	-	-	-	-
Process Drying	-	-	-	-	-	-
Process Heat	0.00	0%	0.00	0%	1.56	4%
Process Refrigeration	-	-	-	-	-	-
Recreation	0.00	0%	0.00	0%	0.35	1%
Service	0.00	0%	0.00	0%	0.10	0%
Service and Domestic Hot Water	0.95	8%	0.00	0%	3.02	8%
Whole Building	4.65	40%	1.81	36%	2.31	6%
Low Income Energy Efficiency	-	-	-	-	1.55	4%
SoCalREN	-	-	-	-	0.22	1%
<b>SCG ANNUAL PORTFOLIO SAVINGS</b>	<b>11.8</b>	<b>100%</b>	<b>5.0</b>	<b>100%</b>	<b>39.5</b>	<b>100%</b>

[1] Results from activity installed in 2017 only.

[2] Includes savings associated with SoCalREN and Low Income Energy Savings Assistance programs.

[3] Gross Codes & Standards program savings for 2017 includes savings from market effects (5%) as calculated in CEDARS. Gross Codes & Standards program savings without market effects is 24,469,088 therms.

## **SECTION 7 COMMITMENTS**

The purpose of this table is to allow the utilities to report commitments which will be produced within the 2018 program year (commitments entered into during the previous and current program cycle but which are not expected to produce installed savings until after December 2017). This information will be useful for the Commission's resource planning purposes by enabling program activities to be linked to a particular funding cycle.

Table 7

A	B	C	D	E
<b>Table 7</b>				
<i>Commitments</i>				
<b>Commitments Made in the Past with Expected Implementation after December 2010-2012</b>				
	<b>Committed Funds</b>	<b>Expected Energy Savings</b>		
<b>2010-2012 [2][4]</b>	\$	GWH	MW	MMth
<b>Resource</b>	853,423	0	0	0.4
<b>Non-Resource</b>	521,766	0	0	0
<b>Codes &amp; Standards</b>	-	0	0	0
<b>SoCalGas Total</b>	1,375,188	0.0	0.0	0.4
<b>Commitments Made in the Past Year with Expected Implementation after December 2015</b>				
	<b>Committed Funds</b>	<b>Expected Energy Savings</b>		
<b>2013-2015 [1]</b>	\$	GWH	MW	MMth
<b>Resource</b>	-	0	0	0
<b>Non-Resource</b>	-	0	0	0
<b>Codes &amp; Standards</b>	-	0	0	0
<b>SoCalGas Total</b>	-	0.0	0.0	0.00
<b>Commitments Made in the Past Year with Expected Implementation after December 2016</b>				
	<b>Committed Funds</b>	<b>Expected Energy Savings</b>		
<b>2016 [1]</b>	\$	GWH	MW	MMth
<b>Resource</b>	-	0	0	0
<b>Non-Resource</b>	-	0	0	0
<b>Codes &amp; Standards</b>	-	0	0	0
<b>SoCalGas Total</b>	-	0.00	0.00	0.00
<b>Commitments Made in the Past Year with Expected Implementation after December 2017</b>				
	<b>Committed Funds</b>	<b>Expected Energy Savings</b>		
<b>2017 [1][3][4]</b>	\$	GWH	MW	MMth
<b>Resource</b>	23,189,723	0	0	15.0
<b>Non-Resource</b>	970,100	0	0	0.0
<b>Codes &amp; Standards</b>	70,000	0	0	0.0
<b>SoCalGas Total</b>	24,229,823	0.00	0.00	15.0

[1] SoCalGas recognizes 2017 to be a bridge period of the 2013-2017 funding cycle based on the decision D.15-10-028. D.15-10-028 defers the accounting issues associated with the Rolling Portfolio to future disposition, and instead, refers to 2017 as a status quo year for accounting items. As a result of 2017 being a part of the 2013-2017 funding cycle, the Energy Efficiency Policy Manual, Version 5 allows PAs to carryover/carryback funding during the current program cycle without triggering a review/approval process based on the fund shifting rules.

[2] Committed and encumbered funds are associated with the 2010-2012 program cycle as of 12/31/2017.

[3] Committed and encumbered funds are associated with the 2013-2017 program cycle as of 12/31/2017.

[4] Non-Resource encumbered funds include funds encumbered from Evaluation, Measurement & Verification programs.



## **SECTION 8 SHAREHOLDER PERFORMANCE INCENTIVES**

In 2017, the Commission awarded SoCalGas an earnings amount of \$2.58 million, calculated from the results of the 2015 and 2016 program period. The IOUs will file their respective ESPI advice letters on September 3rd of this year. The first 2017 ESPI award claims are expected to be approved by the Commission no later than December 31 of this year. The second 2017 ESPI awards claims will be submitted for approval to the Commission on September 1 of the following year. The following table is provided to inform the Commission of ESPI awards received for the prior program cycle years of the 2013-2017 program funding cycle.

Table 8

A	B	C	D	E	F	G
<b>Table 8</b>						
<i>Shareholder Incentives (ESPI)</i>						
Program Year	2013	2014	2015	2016	2017	2018
Forecast [1][5][6]					\$6,200,673	\$ 4,310,258
Actual [1][2][3][4][5]	\$ 3,689,563	\$ 4,041,753	\$ 2,714,022	\$ 1,647,321		

[1] Excludes offset of \$3.7 million against approved awards for energy efficiency shareholder incentives in 2017 and 2018 from the 2006-2008 EE Risk/Reward Incentive Mechanism Settlement Agreement.

[2] ESPI payment authorized for PY 2013 in 2014 and 2015 from respective resolutions G-3497 and G-3510.

[3] ESPI payment authorized for PY 2014 in 2015 and 2016 from respective resolutions G-3510 and G-4807.

[4] ESPI payment authorized for PY 2015 in 2016 and 2017 from respective resolutions G-4807 and G-4897.

[5] Partial ESPI payment authorized for PY 2016 in 2017 from resolution G-4897. The second ESPI award claim will be submitted to the Commission for approval on September 3, 2018. SoCalGas did not file a compliance filing for 2016 and did not estimate an ESPI award value for PY 2016.

[6] SoCalGas' Compliance Advice Letter 5023-A included an estimated ESPI award value of \$6,200,673 for PY 2017.

[6] SoCalGas' Compliance Advice Letter 5183-A included an estimated ESPI award value of \$4,310,258 for PY 2018.

## Appendix A – SoCalGas Program Numbers

Program ID	Program Name	Date Added (new programs)	Date Removed
SCG3701	RES-Energy Advisor		
SCG3702	RES-Plug Load and Appliances		
SCG3703	RES-Plug Load and Appliances - POS		
SCG3704	RES-MFEER		
SCG3705	RES-Home Upgrade Program		
SCG3706	RES-Residential HVAC		
SCG3707	RES-RNC		
SCG3708	COM-Energy Advisor		
SCG3709	COM-CEI		
SCG3710	COM-Calculated Incentives		
SCG3711	COM-Deemed Incentives		
SCG3712	COM-NonRes HVAC		
SCG3713	IND-Energy Advisor		
SCG3714	IND-CEI		
SCG3715	IND-Calculated Incentives		
SCG3716	IND-Deemed Incentives		
SCG3717	AG-Energy Advisor		
SCG3718	AG-CEI		
SCG3719	AG-Calculated Incentives		
SCG3720	AG-Deemed Incentives		
SCG3721	ET-Technology Development Support		
SCG3722	ET-Technology Assessment Support		
SCG3723	ET-Technology Introduction Support		
SCG3724	C&S-Building Codes & Compliance Advocacy		
SCG3725	C&S-Appliance Standards Advocacy		
SCG3726	C&S-Compliance Enhancement		
SCG3727	C&S-Reach Codes		
SCG3728	C&S-Planning Coordination		
SCG3729	WE&T-Centergies		
SCG3730	WE&T-Connections		
SCG3731	WE&T-Strategic Planning		
SCG3734	IDSM-IDSM		
SCG3735	FIN-On-Bill Financing		
SCG3736	FIN-ARRA-Originated Financing		
SCG3737	FIN-New Financing Offerings		
SCG3738	LInstP-CA Department of Corrections Partnership		
SCG3739	LInstP-California Community College Partnership		
SCG3740	LInstP-UC/CSU/IOU Partnership		
SCG3741	LInstP-State of CA/IOU Partnership		
SCG3742	LGP-LA Co Partnership		
SCG3743	LGP-Kern Co Partnership		
SCG3744	LGP-Riverside Co Partnership		
SCG3745	LGP-San Bernardino Co Partnership		

Program ID	Program Name	Date Added (new programs)	Date Removed
SCG3746	LGP-Santa Barbara Co Partnership		
SCG3747	LGP-South Bay Cities Partnership		
SCG3748	LGP-San Luis Obispo Co Partnership		
SCG3749	LGP-San Joaquin Valley Partnership		
SCG3750	LGP-Orange Co Partnership		
SCG3751	LGP-SEEC Partnership		
SCG3752	LGP-Community Energy Partnership		May 2017
SCG3753	LGP-Desert Cities Partnership		
SCG3754	LGP-Ventura County Partnership		
SCG3755	LGP-Local Government Energy Efficiency Pilots		
SCG3757	3P-Small Industrial Facility Upgrades		
SCG3758	3P-PREPPS		
SCG3759	3P-On Demand Efficiency		
SCG3760	3P-HERS Rater Training Advancement		
SCG3761	3P-MF Home Tune-Up		March 2017
SCG3762	3P-CLEO		
SCG3763	3P-MF Direct Therm Savings		
SCG3764	3P-LivingWise		
SCG3765	3P-Manufactured Mobile Home		
SCG3768	3P-CA Sustainability Alliance		
SCG3769	3P-PoF		
SCG3770	3P-PACE		
SCG3771	3P-Innovative Designs for Energy Efficiency Activities (IDEEA365)		
SCG3773	LGP-New Partnership Programs		
SCG3774	LGP-LG Regional Resource Placeholder		
SCG3775	CRM		
SCG3776	LGP-Gateway Cities Partnership		
SCG3777	LGP-San Gabriel Valley COG Partnership		
SCG3778	LGP-City of Santa Ana Partnership		May 2017
SCG3779	LGP-West Side Cities Partnership		
SCG3781	LGP-City of Redlands Pilots		May 2017
SCG3783	LGP-Western Riverside Energy Partnership		
SCG3793	3P - IDEEA365 - Instant Rebates! Point of Sale Food Service Equipment Program		
SCG3796	3P-IDEEA365-On Demand Efficiency for Campus Housing		
SCG3797	3P-IDEEA365-Energy Advantage Program for Small Business		
SCG3798	3P-IDEEA365-Connect		
SCG3799	3P-IDEEA365-HBEEP		
SCG3800	3P-IDEEA365-Clear Ice		
SCG3801	LGP - NOCC		
SCG3802	LGP - SANBAG		
SCG3803	SW-FIN-California Hub for EE Financing		
SCG3804	3P-IDEEA365-On-Premise Ozone Laundry		
SCG3805	COM-Direct Install Program		

<b>Program ID</b>	<b>Program Name</b>	<b>Date Added (new programs)</b>	<b>Date Removed</b>
SCG3806	Water AMI Pilot		

## Appendix B.1 – Updated Monthly Report

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The Updated Monthly Report can be found on the CEDARS website:  
<https://cedars.sound-data.com/monthly-reports/statewide-dashboard>

## Appendix B.2 – Updated Quarterly Report

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The Updated Quarterly Report can be found on the EEStats website:  
<http://eestats.cpuc.ca.gov/Views/Documents.aspx>

## Appendix C – Third-Party Contract Information

Program ID #	Program Name	Primary Sector	Sector	Delivery Channel	Vendor	Length	Dollar Value
SCG3757	3P-Small Industrial Facility Upgrades	Non-Residential	Industrial	Resource	CLEAResult Consulting Inc.	9 years, 1 month	
SCG3758	3P-PREPPS	Non-Residential	Commercial	Resource	CLEAResult Consulting Inc.	9 years, 1 month	
SCG3759	3P-On Demand Efficiency	Residential	Residential	Resource	Benningfield Group Inc.	9 years, 1 month	
SCG3760	3P-HERS Rater Training Advancement	Residential	Residential	Non-Resource	CLEAResult East Operating LLC	8 years, 10 months	
SCG3762	3P-CLEO	Residential	Residential	Non-Resource	Global Energy Solutions Inc.	9 years, 1 month	
SCG3763	3P-MF Direct Therm Savings	Residential	Residential	Resource	Honeywell International	9 years, 1 month	
SCG3764	3P-LivingWise	Residential	Residential	Resource	Resource Action Plan LLC	9 years	
SCG3765	3P-Manufactured Mobile Home	Residential	Residential	Resource	Eagle Systems International Inc. dba Synergy Corporation	9 years	
SCG3768	3P-CA Sustainability Alliance	Cross-Cutting	Residential, Commercial, Industrial, Agricultural	Non-Resource	Navigant Consulting Inc.	9 years	
SCG3769	3P-PoF	Cross-Cutting	Residential, Commercial, Industrial, Agricultural	Non-Resource	Navigant Consulting Inc.	9 years	
SCG3770	3P-PACE	Cross-Cutting	Residential and Commercial	Non-Resource	Pacific Asian Consortium in Employment	9 years, 11 months	
SCG3771 *	3P-Innovative Designs for Energy Efficiency Activities (IDEEA365)	Cross-Cutting	N/A	Non-Resource	N/A	N/A	
SCG3793	3P-IDEEA365-Instant Rebates! Point-of-Sale Foodservice Rebate	Non-Residential	Commercial	Resource	Energy Solutions	5 years, 3 months	
SCG3796	3P-IDEEA365-ODE for Campus Housing	Non-Residential	Residential and Commercial	Resource	Benningfield Group Inc.	3 years, 11 months	
SCG3797	3P-IDEEA365-Energy Advantage Program for Small Business	Non-Residential	Residential, Commercial, Industrial, Agricultural	Non-Resource	CB&I Environmental & Infrastructure, Inc.	3 years, 6 months	
SCG3798	3P-IDEEA365-Connect	Non-Residential	Commercial and Industrial	Non-Resource	Waypoint Building Group, Inc.	4 years, 6 months	
SCG3799	3P-IDEEA365-HBEEP	Residential	Residential	Non-Resource	ICF Resources LLC	3 years, 2 months	
SCG3800	3P-IDEEA365-Clear Ice	Non-Residential	Commercial	Resource	Cypress Ltd	3 years, 2 months	
SCG3804	3P-IDEEA365-On-Premise Ozone Laundry	Non-Residential	Commercial	Resource	Blackstone Research Solutions Inc.	4 years, 6 months	
						<b>Total</b>	<b>\$113,543,838.21</b>

**Notes**

\* The Innovative Designs for Energy Efficiency Activities 365 (IDEEA365) program provides opportunities for third-party contractors to propose and implement new programs. This Energy Efficiency (EE) program design allows for a "continuous solicitation" portfolio cycle to encourage new innovative technologies, program concepts, and offerings without having to wait for a new program cycle to begin. As such, IDEEA365 is not tied to a specific contractor and does not have contract information.