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)

SAN DIEGO GAS & ELECTRIC COMPANY (U 902-M) ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT 2016 RESULTS

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SAN DIEGO GAS & ELECTRIC COMPANY (U 902 M) ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT 2016 RESULTS

San Diego Gas & Electric Company ("SDG&E") hereby submits its 2016 Annual Report for 2016 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 dated August 8, 2007. The Ruling requires "each utility to file its annual report on May 1 of the year following the end of a given program year."

SDG&E's Annual Report and associated documents, e.g., electric and gas savings for 2016, have also been uploaded and are available for viewing on the California Public Utilities Commission's Energy Efficiency Statistics Application ("EESTATs") website.

Respectfully submitted,

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SAN DIEGO GAS & ELECTRIC COMPANY

ENERGY EFFICIENCY PROGRAMS

ANNUAL REPORT

2016 RESULTS

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EXECUTIVE SUMMARY

San Diego Gas & Electric Company (SDG&E) is committed to energy efficiency and helping our customers manage their energy costs as their trusted energy advisor. SDG&E's energy efficiency portfolio is designed to promote the objectives of the California Energy Efficiency Strategic Plan (Strategic Plan) adopted by the California Public Utilities Commission (CPUC or Commission). Using the guiding principles of innovation, integration and comprehensiveness that SDG&E used in designing its 2016 program portfolio, SDG&E's energy efficiency program portfolio achieved substantial annual energy savings. Over the past year, SDG&E's efforts resulted in savings of over 346 million kilowatt-hours (kWh), reduced energy demand by approximately 93 MW, and saved nearly 3.6 million therms. In addition to helping customers save money, save energy, and live more comfortably, these gas and electric energy savings have reduced CO2 by over 288 thousand tons, the equivalent of removing over 55 thousand cars from the road in support of the State's goal of reducing greenhouse gas emissions.

SDG&E also continues to provide innovative and user-friendly solutions to enable customers to take control of their energy use and reduce their bills. By signing up for My Account through SDG&E's website, customers can access the Energy Management Tool, which helps them manage their energy use by providing updates on how and where they use energy the most. Customers can conveniently access their consumption history via the Green Button process, and have the option to authorize a third party to review and analyze their energy use data through Green Button Connect My Data. In addition, SDG&E customers can borrow an in-home display device from SDG&E at no cost to understand their home's energy use and identify high energy use appliances with near-real time information and estimated energy costs. SDG&E's Marketplace offers customers an easy way to review and purchase energy efficiency products. In 2016, SDG&E launched a new Marketplace feature that provides efficiency ratings to help customers make informed

decisions.

IDSM efforts continued to provide demand response enabled programmable communicating thermostats to both residential and commercial customers in 2016. SDG&E also works with its non-residential customers, such as schools, local government agencies and others, to develop integrated projects that combine energy efficiency measures and equipment with demand response programs and solar photovoltaic projects to enable them to meet their own greenhouse gas targets and to be at or near Zero Net Energy (ZNE). SDG&E also works with local schools as they develop energy efficiency projects under Prop 39. SDG&E's AB 793 Energy Management Systems proposals will help to launch it into the future of innovative technology solutions for its customers in 2017.

Another focus for SDG&E in 2016 was to improve the customer experience for energy efficiency programs. Because of innovative marketing campaigns and additional customer friendly features like the efficiency score, SDG&E's Marketplace rebate processing increased dramatically. By the end of 2016, approximately 90% of SDG&E residential rebates were processed through Marketplace, which aims to provide the customer with a debit card rebate within 10 business days, significantly elevating the customer experience from the traditional paper processing method. SDG&E also had the unique opportunity to partner with the San Diego Padres for the "Going to Bat" promotion. During Padres home games fans would be prompted to text a code, which would then reply with a link to a no-cost 5-pack of LEDs to be ordered through Marketplace. Over the course of the season, SDG&E distributed 5,000 5-packs of LEDs to customers, which led to greater awareness of LEDs and consequently Marketplace.

Another way that SDG&E enhances customer experience is through its annual Energy Showcase awards. Through this event, SDG&E recognizes non-residential customers that complete exemplary comprehensive energy saving projects. These business and government partners serve as models to others in the community as they have installed energy efficiency measures, participated in demand response programs, and, in some cases, implemented water conservation efforts as well. The common thread among all is their commitment to green practices and their desire to continue to expand in

this area. 2016's winners represented a variety of market segments and implemented a variety of energy savings measures. In addition to their energy-saving efforts, many winners also offer electric vehicle charging to their employees and visitors. The 2016 Energy Showcase winners and a detailed description of their projects can be found on SDG&E's website: http://www.sdge.com/energy-showcase.

Financing programs also allow SDG&E to provide the best possible experience for its energy efficiency customers. SDG&E continued its On-Bill Financing Program in 2016, and since its inception in 2006, has funded nearly 1500 loans totaling over $51 million as of year-end 2016, enabling businesses, local governments, and institutional customers to pursue increasing levels of energy efficiency.

In addition, SDG&E supports the energy efficiency efforts of its local government and institutional partnerships. SDG&E's partners save energy within their own facilities and operations, and increase awareness of energy efficiency opportunities for customers through a variety of program offerings. In 2016, partnership activity began to galvanize around climate action planning activities, which emphasize energy efficiency and other climate related goals.

SDG&E has also been participating in statewide discussions with the CPUC, local water agencies, and other stakeholders to provide water-energy conservation and efficiency measures to support solutions to Southern California's continuing drought. In 2016, SDG&E offered measures such as low-flow showerheads, aerators, spray rinse valves and leak detection services. SDG&E participates in the CPUC's Water Energy Nexus proceeding (R.13-12-001) as the CPUC seeks to find solutions that the energy utilities can implement to contribute towards alleviating drought conditions by saving water and embedded energy (e.g., energy used in the conveyance and recycling of water).

SDG&E's energy efficiency programs are becoming a bigger part of the solution for maintaining grid reliability and achieving the state's aggressive climate goals. SDG&E actively participates in proceedings addressing how Distributed Energy Resources (DERs), like energy efficiency, can achieve the state's reliability and climate related goals[1]. To this

[1] Integrated Distributed Energy Resources and Integrated Resource Planning proceedings.

end, SDG&E completed its first ever Locational Energy Efficiency Pilot in 2016 to test how a combination of energy efficiency and demand response activities could be targeted to reduce load in a specific area. SDG&E is also actively participating in energy efficiency proceedings designed to implement SB 350[2], which requires a doubling of energy efficiency by 2030. Building on successes in 2016, SDG&E's energy efficiency program portfolio is poised to launch into the future of distributed energy in California.

Finally, SDG&E also experienced some program challenges in 2016. Specifically, the Commercial, Industrial and Agricultural Rebates programs experienced an increase in participation primarily in LED fixtures. The market prices for these LED fixtures have been trending downwards over time. As a result, the program experienced high demand and a dramatic increase in market participation.

SDG&E took the following actions to support participating customers and contractors and manage customer participation:

- made adjustments to the rebates for LED products and communicated with customers and contractors;
- requested and received approval for fund shifts to provide rebates to all customers with qualified projects submitted up until the program suspension at the end of the third quarter; and
- adjusted the program design to include a midstream model for select lighting measures effective the second quarter of 2017.

SDG&E believes that the re-designed program being offered in 2017 better reflects current market needs.

Conclusion

[2] 2017 Energy Efficiency Business Plan (A.17-01-014), Commission Energy Efficiency Proceeding Phase 3 (R.13-11-005), and the California Energy Commission's Rulemaking "General Rulemaking Proceeding for Developing Regulations, Guidelines and Policies for Implementing SB 350 and AB 802, Docket 16-OIR-01."

SDG&E's energy efficiency vision remains clear and consistent with the plans and policies of the State of California as adopted in the Strategic Plan. SDG&E maintains its commitment to its customers' ongoing challenge of managing their energy costs through energy efficiency, energy conservation and demand reduction. Improving the program portfolio using the guidelines of innovation, integration and comprehensiveness will remain an emphasis in designing and implementing programs. SDG&E looks forward to continued collaboration with the CPUC, state, regional, and other stakeholders with the transition into the Rolling Portfolio Business Plan structure, which is expected to increase flexibility and continuity of the energy efficiency portfolios in 2017 and beyond.

2016 ENERGY EFFICIENCY PROGRAM PORTFOLIO SUMMARY

A. Statewide Residential Energy Efficiency Programs

1. SDGE3201 SW CALS Energy Advisor – HEES (UAT)

Program Description:

This program is a continuation of the existing Statewide Energy Advisor Program (formerly known as the Home Energy Efficiency Survey-HEES Program) within the residential energy efficiency portfolio. Although the four California IOUs share similar program theories, goals and design elements, each IOU may be implementing a unique tool by a different vendor.

In 2016, the Energy Advisor Program continued to help customers understand their energy use through various tools and educational opportunities. The program utilizes behavioral outreach initiatives and interactive tools designed to engage and encourage customers to reduce their energy consumption through program recommendations and, as warranted, Integrated Demand Side Management (IDSM) opportunities. Additional tools that are available to customers through the program are usage analysis, household usage data and comparison, as well as literature and information on how customers can save money and energy. These tools utilize smart meter data or a customer's self-reported data to provide a detailed overview of how energy is used in their household and what can be done to save energy and money.

Implemented Strategies:

In Q4 of 2016, the program saw the greatest increase in customer action plan completions since its inception as a result of targeted marketing efforts, which included leveraging: social media sites, banner in My Account, external messages to customers who have completed a survey but not the action plan, external emails on the release of a new feature (one-click plan), and collateral/emails that were developed for other programs listing Energy Advisor as a solution for customers.

2. Statewide CALSPREE – Plug Load and Appliances

The Plug Load and Appliances (PLA) Program develops and builds upon existing retailer relationships, point of sale strategies, and Responsible Appliance Disposal (RAD) appliance recycling strategies. It is comprised of three sub-programs: Home Energy Efficiency Rebate (HEER) Program, Point of Sale Program (POS) and Appliance Recycling Program (ARP). As discussed in the ARP section of this document the ARP was closed in the second quarter of 2016 and ceased to exist. The remaining PLA sub-programs offer incentives to customers to purchase and install high efficiency appliances (such as ENERGY STAR®) and works with other partners to drive the adoption of higher efficiency products as well as water saving measures.

a. SDGE3203 SW-CALS – Plug Load and Appliances – HEER

Program Description:

The Plug Load and Appliances (PLA) - HEER Program provides rebates for energy efficient products such as refrigerators, clothes washers and pool pumps. Customers can access rebates through the SDG&E Marketplace at marketplace.sdge.com, or by submitting a paper application. Paper applications are available at: www.sdge.com/residential/easy-and-affordable-ways-save/easy-ways-save.

Implemented Strategies:

In 2016, SDG&E deactivated non cost effective and/or underperforming downstream measures such as: insulation, furnaces, and room air conditioners. SDG&E identified areas of opportunity to boost program participation such as offering higher rebate incentive amounts to coincide with retailers' seasonal promotions and simplifying the rebate redemption process through the SDG&E Marketplace (marketplace.sdge.com). The promotions created a sense of urgency for customers, reduced the steps to redeem a rebate and created a call to action. As a result of these efforts, SDG&E realized a substantial short-term increase in rebates processed while adding value to the consumers' overall purchase and adoption of the product and/or appliance.

b. SDGE3204 SW-CALS – Plug Load and Appliances – POS Rebates

Program Description:

The Plug Load and Appliances (PLA) - POS Program builds upon existing retailer relationships, point of sale strategies, and incentives to encourage customers to choose and install high efficiency (ENERGY STAR®) appliances and water saving measures. The POS Program provides instant rebates removing the need for additional follow up by the customer.

Implemented Strategies:

SDG&E's PLA Program saw success in the areas of retail management and partnerships, training, and in-store participation. SDG&E conducted detailed retailer training and education, and provided communications to retail partners to ensure program detail and updates were widely known and accepted by retail partners. Retail partners include store and/or department management, supervisors, and sales lead associates. The store training consisted of in-store presentations and program review, as well as regular check-in calls with stores in between site visits. Point of Sale signage was updated when program changes occurred, as well as when the program realized opportunities for increased customer awareness.

c. SDGE3206 SW-CALS – Plug Load and Appliances – ARP

Program Description:

The Appliance Rebate Program continued its partnership with the retailer appliance recycling integration through the program's closure in the second quarter of 2016. This partnership facilitated the process for residential customers to opt into appliance recycling at approved retail locations. This process helped to reduce the number of customers that keep or sell secondary appliances, thereby removing high energy usage loads from the grid permanently. In addition, the cost savings to the program were achieved through reduced bulk pick up pricing at the retailer's centralized warehouse. In addition, the Sales Promotion Incentive Fund (SPIF) program was introduced to further increase retail participants.

Implemented Strategies:

Despite efforts to incorporate the retailer appliance recycling component, the program's decreasing cost effectiveness made it difficult to sustain and continue to provide the service. After thorough vetting of these program issues among all internal and external stakeholders it was determined that SDG&E would close the program. An Advice Letter (2873-E) was filed with the details of the program closure and was approved by the CPUC effective April 24, 2016.

3. SDGE3207 SW-CALS Multifamily Energy Efficiency Rebate Program

Program Description:

The Multifamily Energy Efficiency Rebate (MFEER) Program offers a variety of incentives to motivate multifamily property owners and managers to install energy efficiency products. These products can be installed in both common areas and dwellings of multifamily complexes and in common areas of mobile home parks and condominiums. An additional objective of the program is to heighten energy efficiency awareness of property owners, property managers, and tenants.

Implemented Strategies:

The Multifamily Program continues to integrate various SDG&E programs to ensure that all multifamily offers are presented to the customer. Additional future integration leveraging a Single Point of Contact and regional contractors is targeted for 2017, which will further streamline the customer experience. In some areas, SDG&E already offers a one-stop shop allowing customers to benefit from MFEER, MIDI and ESAP through a single point. In 2016, SDG&E also focused on renegotiating contracts to maximize ratepayer dollars by lowering the costs of various measures. The goal for 2017 and beyond is to implement this effort sector-wide.

4. SDGE3209 SW-CALS EUC HUP

Program Description:

The Energy Upgrade California (EUC) Subprogram (Home Upgrade) provides incentives for comprehensive home upgrades to single family and multifamily residential

customers. The program guides customers to perform energy savings retrofits using a whole house approach that allows customers to achieve deeper and more comprehensive energy savings in keeping with the energy efficiency loading order. This approach views the building as a set of interdependent systems that must be considered holistically.

There are two paths in the Home Upgrade Program: (1) A home upgrade path that uses a deemed/performance hybrid approach; and (2) an advanced home upgrade path that uses comprehensive energy modeling. These paths allow the customer to choose from a variety of measures that best suit their home and needs.

There is also a Multifamily (MF) component to this program. The EUC-MF Program uses a performance-based approach to encourage property owners to choose the most cost effective measures to achieve a minimum 10 percent improvement, at the whole-building level, over existing conditions. EUC-MF offers incentives ranging from $550 per unit at 10 percent improvement, to $1,500 per unit at 40 percent improvement.

Implemented Strategies:

SDG&E worked to update the home upgrade website and information on SDG&E's main internal website. Additionally, the vendor-hosted website was removed and brought in-house to improve real-time updates and reduce costs (http://www.sdge.com/save-money/energy-upgrade-california-home-upgrade). The customer enrollment and lead process was also brought in house using the EECP Online Application portal, which is scheduled to go live in early 2017. The vendor has monitored the existing website activity and because of various Home Upgrade marketing activities and external events, there have been approximately 2,000 customer leads generated to date.

SDG&E worked collaboratively to ensure program communications were current, relevant and timely during 2016. The communication channels utilized for contractor engagement were bi-monthly newsletters and quarterly contractor roundtable meetings.

Contractor Recruitment & Mentoring

Previously the program had struggled to produce significant improvements to the job numbers due to the number of inactive and disinterested contractors the program carried. In 2016, all inactive contractors were removed from the program and replaced by

contractors that were eager and willing to participate. As a result, approximately 50 contractors actively participate in 2016, which resulted in nearly 800 paid incentive projects with roughly 70 projects in the joint SDG&E/SCG territory.

The recruitment approach continues to focus on new contractors that specialize in specific industries (HVAC, Home Performance, and Remodeling) which are a good fit for the Home Upgrade program. Additional focus is given to contractors who actively try to promote the advanced home upgrade path for more comprehensive energy savings opportunities.

Completed Home Upgrade Projects

A reflection of program success does not necessarily rest solely on the quantity of participating contractors but rather in their active participation in the program. Active participation resulting in completed jobs has consistently improved year after year. Completed projects in 2016 increased by almost 300 over 2015.

Multifamily Home Upgrade

The Multifamily Home Upgrade Program completed energy-efficient upgrades for three projects, composed of 480 customer dwelling units, with an average site savings of approximately 24%. Although the average site savings have increased since 2015, the multifamily program component has seen less market participation in 2016 due to barriers such as inspection failures. Barriers include common test-out measure failures which require corrections. These corrections delay project completion and incentive payments to the customer.

5. SDGE3213 SW-CALS-CAHP/ESMH – California Advanced Homes

Program Description:

The California Advanced Homes Program (CAHP) is a comprehensive residential new construction concept with a cross-cutting focus on sustainable design and construction, green building practices, energy efficiency, and emerging technologies. Through a combination of education, design assistance and financial support, the CAHP works with building and related industries to exceed compliance with the California Code

of Regulations, Title 24 Part 6, and Building Energy Efficiency Standards for Residential and Non-Residential 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, low-rise and high-rise multifamily residential new construction built in an IOU service territory.

Implemented Strategies:

CAHP supports California building code changes for 2016 building with the support of the Statewide CAHP team and various partnerships. There was a focus this year on ensuring that builders in the upcoming program cycles are educated on the benefits of advanced attics, advanced walls, advanced windows as well as other identified residential new construction solutions. The Statewide CAHP team worked closely through their partnerships to educate the building industry of new ways to correctly install these envelope measures. The 2016 program year was a successful year for the CAHP. The program accumulated enough energy savings and unit participation to surpass the 2016 program kWh and therm energy goals.

CAHP has continued to implement new code readiness efforts to educate builders on the best new construction practices. Statewide CAHP efforts continue to design a program that supports energy efficiency, demand response, and renewables, with the ultimate goal of building ZNE homes by 2020. The CAHP will continue to transform the residential new construction market via direct guidance to the building industry as well as providing incentives for cost-effective energy efficiency.

6. SDGE3214 SW-CALS-CAHP/ESMH – Energy Star® Manufactured Homes

Program Description:

The ENERGY STAR® Manufactured Homes Subprogram was designed to promote the construction of new manufactured homes in SDG&E's service territory that comply with ENERGY STAR® energy efficiency standards. The program targeted manufacturers, retailers, and homebuyers of new manufactured homes.

Implemented Strategies:

The ENERGY STAR® Manufactured Homes Subprogram experienced overall low participation and the program was subsequently closed via Advice Letter 2932-E filed on July 26, 2016 and approved effective August 15, 2016

7. SDGE3302 SW-CALS – Res Upstream HVAC Equipment Incentive

Program Description:

The Residential Upstream HVAC Distributor Incentive Program provides incentives to distributors for stocking and selling high-efficiency HVAC units and furnaces. By offering equipment incentives upstream to distributors, the program maximizes the opportunities to influence the repair, replace, or purchase decision and transform the HVAC market through the supply chain. Manufacturers and distributors influence HVAC contractor purchases and stocking and may use the incentives at their discretion to promote high-efficiency product sales.

Implemented Strategies:

The program achieved an increase in eligible sales of premium efficiency residential HVAC equipment with limited distributor participation. Enrolled distributors cover six of ten major national brands and an estimated 60% or more of market share. Strong Consortium for Energy Efficiency (CEE) Tier 2 and 3 furnace sales have yielded higher than anticipated gas savings. CEC climate zone changes in March 2016 impacted the program, particularly in zip codes that were shifted from climate zone 10 in prior years to climate zone 7 in 2016. Late in the year, the zip codes that had changed climate zones were grandfathered in so that they could retain their previous climate zone categorization, which helped to maintain the program's success.

8. SDGE3303 SW-CALS – Res HVAC Code Compliance Incentive

Program Description:

The Residential HVAC to Code Compliance Program provides incentives to HVAC distributors ($100) for working with their installation contractors to initiate the Home

Energy Rating System (HERS) process, and with end use customers ($200) for working with their local building departments to finalize their HVAC permits. Incentives are paid at the upstream and downstream levels to fairly and efficiently encourage the start and finish of the compliance processes, and to encourage discussion of the value of compliance at the high-leverage, key decision points of the market process. The expected outcome of the program is to be demonstrated by an increased number of residential permits for HVAC replacements finalized, and an increased number of HVAC replacement jobs tracked by the HERS registries. This program is offered within select city jurisdictions in climate zone 10.

Implemented Strategies:

The program has been able in prior years to successfully recruit the Cities of Chula Vista, El Cajon, and Poway to host the program. In 2016, Escondido was added to the list of eligible cities. City participation has been enthusiastic. Customer rebate applications were made available to the cities for display at their permitting counters.

In addition, the upstream portion of the program was successfully implemented in 2016. Two distributors signed on to the program with one distributor participating so far. Multiple contractors were recruited to promote the program in 2016.

9. SDGE3293 SW-CALS Residential HVAC- HVAC Core

Program Description:

The statewide Residential HVAC Core Program delivers a comprehensive set of downstream, midstream, and upstream strategies that build on existing program, education, and marketing efforts and leverage relationships within the HVAC industry to transform the market towards a sustainable, quality driven market. Market transformation, direct energy savings and demand reductions are achieved through a series of subprograms that make up the comprehensive program approach. As stipulated in the subprograms, the program successfully recruited, organized, and managed the different elements to achieve the goals as set forth in the California Energy Efficient Strategic Plan, Big Bold Strategy, and HVAC Action Plan.

The Residential HVAC Subprogram's primary objective is to drive high quality levels

in California's HVAC market for technology, equipment, installation, and maintenance. An additional objective is to increase customer awareness of the value of HVAC installation and maintenance practices toward driving energy efficiency and peak load reduction. The Commercial HVAC Subprogram will incorporate revised measures and incentives, policies and procedures, quality assurance, marketing materials, website, and contractor training in performing HVAC installation services for residential customers. This program is implemented through the vendor Better Buildings, Inc.

Implemented Strategies:

During 2016, SDG&E and the IOUs' HVAC Program teams individually and through the Western HVAC Performance Alliance (WHPA) collaborated on improving the performance of the 2016 HVAC programs. Throughout 2016, SDG&E actively participated in WHPA committees, sub-committees, and working groups. SDG&E reviewed and integrated strategies and recommendations from these groups to streamline the performance of the existing and potential programs. The WHPA committees, sub-committees, and working groups delivered multiple strategies, meeting minutes, and work products through multiple delivery channels in the HVAC industry and related IOU HVAC Programs. In addition, the WHPA's 2016 SMART goals provided effective high level strategies that were implemented in 2016. The collaboration of IOUs across multiple WHPA committees plotted a successful course to meet the HVAC Long Term Strategic Plan (LTSP) and market transformation goals in 2016.

B. Statewide Commercial Energy Efficiency Programs

1. SDGE3215 SW-COM-Continuous Energy Improvement

Program Description:

The Commercial Continuous Energy Improvement (CEI) is a consultative service which targets long-term and strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and to help reduce energy intensity through a comprehensive energy management approach.

Implemented Strategies:

SDG&E's third party contractor, REV, facilitated the REV Sustainability Circle® (the Circle) which is a 6-month program that helps small to mid-sized enterprises develop a 5-year Sustainability Action Plan, or enhance an already existing plan. The Circle provided the structure, tools, expertise, coaching and a peer-learning community to inspire participants to create a completely relevant and customized action plan for their organization, comprised of projects with a defined return on investment (ROI).

In 2016, the integration of SDG&E account executives in the Sustainability Circles was greatly increased. Account executives attended customer sessions and received and reviewed a copy of their clients' Sustainability Action Plans. A transportation module was also added to the Sustainability Circle to help ensure a comprehensive learning experience. Additional strategies in 2016 included revised curriculum for Small Business Sustainability Circles, revised behavior briefs and employee engagement modules, and enhancement of sustainability action plan worksheets.

Three Sustainability Circles launched and completed in 2016. More than 30 commercial customers participated in the program. The company sizes varied between small, medium, and large.

2. SDGE3216 SW-COM-Customer Services-Benchmarking

Program Description:

Up until the passage of AB 802 in 2016, SDG&E had been working with its customers through this benchmarking program to comply with AB 1103 (Non-Residential Building

Energy Use Disclosure Programs). AB 1103 required a non-residential building owner to benchmark the building's energy use data and disclose the energy use data prior to the sale of the building; or lease; or financing of the entire building. AB 1103 concluded and was superseded by AB 802 in 2016, which requires more enhanced benchmarking requirements as described below.

Implemented Strategies:

In 2016, while non-residential benchmarking was not required, SDG&E continued to assist customers by offering tools and help with uploading building energy usage data to Portfolio Manager. SDG&E and its stakeholders, along with the other IOUs, worked closely with the CEC to continue to develop the AB 802 provisions which require (1) the utilities to provide energy consumption data for impacted non-residential and multifamily property owners, or their agents upon request and (2) for the CEC to establish an updated benchmarking and public disclosure program for buildings.

3. SDGE3217 SW-COM-Customer Services – Audits Non-Res

Program Description:

The Comprehensive Audit Program is an Integrated Demand Side Management (IDSM) audit that produces a comprehensive audit report that is equivalent to an ASHRAE Level 2 report, at no cost to the customer. SDG&E offers two types of audits: (1) Category 1 audit, which consists of a high-level walkthrough that provides an equipment inventory and high level payback estimates of the identified measures; and (2) Category 2 audit, which is a more detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Category 2 audit is geared towards businesses that plan to implement recommended measures within one year of the audit being completed. As an IDSM Program, audit scope and reports for both the Category 1 & Category 2 audits include energy efficiency, demand response, and distributed generation opportunities. These audits are performed by vetted engineering firms and the audit report delivers valuable insights about how and where energy is being consumed. The program is

designed to provide businesses a roadmap on various actions they can take to reduce their overall energy consumption and reduce operating costs.

Implemented Strategies:

The Comprehensive Audit Program was redesigned and launched on June 1, 2016. The program was redesigned to include a total of 7 auditing firms, which are 5 more firms than the previous program. In addition to adding additional firms to the program, SDG&E also allows them to perform implementation services for customers once the audit has been completed. The audit program now offers two levels of audits, a Category 1 (High Level) and a Category 2 (Detailed Investment Grade) audit based on the customers' needs. In 2016, SDG&E received a total of 28 audit requests, 18 of which resulted in completed Commercial audits.

4. SDGE3220 SW-COM-Calculated Incentives-Calculated

Program Description:

The Calculated Incentives Subprogram provides customized incentives for non-residential energy efficiency retrofit projects involving the installation of high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards. New offerings provide a framework to encourage emerging technologies and deeper, more comprehensive retrofits.

Implemented Strategies:

In 2016, the program continued to experience reduced participation rates from its service territory customer base. The feedback SDG&E commonly receives from customers, trade professionals, and internal stakeholders is that the additional time and expense of complying with increasingly complex program requirements is dissuading customers from participating in this program. Many factors contribute to this feedback, including the complex Calculated Incentive Program requirements and intricacies such as the Custom Measure Project Archive (CMPA) parallel review process, collection of Incremental

Measure Cost, Preponderance of Evidence documentation for Early Retirement measures and the increased frequency of measure energy savings drastically reduced or removed from offerings due to Commission Industry Standard Practice edict. Because of this year's continually declining participation, the program was able to fund shift a large portion of its program incentive dollars to SDG&E's Rebate Program to assist with its massive influx of project participation.

Despite the reduced participation the program continued to achieve program improvements in 2016 including:

Improving program reporting standards by transitioning to the new project tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP), which will now allow the program to leverage more project date milestones so that it may improve individual project timelines and increase project analytic data.

Program staff continued to conduct improved training sessions for internal and external stakeholders monthly. Additional trainings included "Navigating EEBI" lunch and learn for trade professionals and free-ridership trainings for SDG&E account executives and other internal stakeholders, which continue to reinforce and improve the knowledge of the program participants on the various details and requirements of the program which should encourage future increased participation.

5. SDGE3222 SW-COM-Calculated Incentives – Savings by Design

Program Description:

The Savings by Design (SBD) Subprogram serves the commercial new construction segment. It promotes integrated design by providing owner incentives and design assistance to participants who design spaces that perform at least 10% better than Title 24.

Implemented Strategies:

In 2016, the SBD Subprogram continued to experience a steady growth from the previous program year participation downturn. The 2016 annual number of project installations allowed the program to regain a consistent installation rate and achieve its annual energy savings goal. The SBD program also successfully migrated to a new project

tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP), which will now allow the program to leverage more project date milestones so that it may improve individual project timelines and increase project analytic data.

In addition, SBD coordinated with a number of internal and external stakeholders to improve project submissions and to contend with the increasing difficulty of the Custom Measure Project Archive (CMPA) parallel review process. Also, the statewide SBD group collaborated closely to improve dissemination of industry information through the continued use of its energydesignresources.com website. Finally, to improve program visibility in the territory, SBD revived the lunch and learn marketing efforts with local design community members; those marketing efforts should improve project participation for the future program year.

6. SDGE3223 SW-COM-Deemed Incentives – Commercial Rebates

Program Description:

The Statewide Commercial Deemed Incentives Subprogram provides rebates for the installation of new energy efficient equipment. Deemed retrofit measures have prescribed energy savings and incentive amounts and are generally intended for projects that have well defined energy and demand savings estimates.

Implemented Strategies:

The Commercial Rebates Program experienced a significant increase in participation in 2016. As a result, the program experienced high demand and a dramatic increase in market participation due in part to market price declines for LED fixtures. SDG&E also observed the increase in contractor participation in SDG&E's service territory due to rebate changes that were made in other service territories. Additionally, large scale projects were submitted due to customer initiatives such as climate action goals or grant funding. To mitigate the demand on the program, rebate values were assessed and reduced to levels that were cost effective to the program. The program changes only slightly reduced the demand on the program and eventually it was suspended at the end of the

third quarter. This increase in program participation resulted in additional assessments of the delivery channels used by the deemed program. Future program delivery mechanisms will include a midstream model for select lighting products, which uses incentives to buy down product costs at the distributor level and pass through cost savings to the customer.

In addition, the continued shift in customer participation from the custom incentive program to the deemed rebates program contributed to a large influx of applications. Additional resources were required to process the uptake of application submittals.

Monthly trainings for trade professionals continued in 2016. These trainings provided a high level overview of the programs and gave the trade professionals access to work directly with program advisors. Trainings have been well attended and well received.

7. SDGE3227 SW-IND-Continuous Energy Improvement

Program Description:

The Industrial Continuous Energy Improvement (CEI) Program is a consultative service which targets long-term and strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and to help reduce energy intensity through a comprehensive energy management approach.

In 2016, the CEI Program began the transition of CEI into the Strategic Energy Management (SEM) Program, which will launch in 2017 in the Industrial sector.

Implemented Strategies:

REV, SDG&E's third party contractor, facilitated the REV Sustainability Circle® (the Circle) which was a 6-month program that helped small to mid-sized enterprises develop a 5-year Sustainability Action Plan, or enhance an already existing plan. The Circle provided the structure, tools, expertise, coaching and a peer-learning community to inspire participants to create a completely relevant and customized action plan for their organization, comprised of projects with a defined ROI.

In 2016, the integration of SDG&E account executives in the Sustainability Circles was greatly increased. Account executives attended customer sessions and received and reviewed a copy of their clients' Sustainability Action Plans. A transportation module was

also added to the Sustainability Circle to help ensure a comprehensive learning experience. Additional strategies in 2016 included revised curriculum for Small Business Sustainability Circles, revised behavior briefs and employee engagement modules, and enhancement of sustainability action plan worksheets.

Three Sustainability Circles launched and completed in 2016 and included both small-to-medium commercial and large industrial customers.

Lastly, in 2016, the IOUs began the process of revamping CEI into Strategic Energy Management (SEM) which will live in the Industrial sector. The IOUs co-designed SEM which will replace the existing CEI Program and will strive to provide long-term consulting services to educate and train customers on achieving deep energy efficiency savings.

8. SDGE3225-SW-COM-Deemed Incentive-HVAC Core

Program Description:

The Statewide Commercial HVAC Core Program delivers a comprehensive set of downstream, midstream, and upstream strategies that builds on existing program, education, and marketing efforts and leverages relationships within the HVAC industry to transform the market towards a sustainable, quality driven market. Market transformation and direct energy savings and demand reductions are achieved through a series of subprograms that make up the comprehensive program approach. As stipulated in the subprograms, the program successfully recruited, organized, and managed the different elements to achieve the goals as set forth in the California Energy Efficiency Strategic Plan, Big Bold Strategy, and HVAC Action Plan.

The Commercial HVAC Subprogram is a continuing program with the primary objective of driving high quality levels in California's HVAC market for technology, equipment, installation, and maintenance. An additional objective is to increase customer awareness of the value of HVAC installation and maintenance practices toward driving energy efficiency and peak load reduction. The Commercial HVAC Subprogram will incorporate revised measures and incentives, policies and procedures, quality assurance, marketing materials, website, and contractor training in performing HVAC installation

services for commercial customers. This program is implemented through the vendor, Better Buildings, Inc.

Implemented Strategies:

During 2016, SDG&E and the IOUs' HVAC Program teams individually and through the Western HVAC Performance Alliance (WHPA) collaborated on improving the performance of the 2016 HVAC Programs. Throughout 2016, SDG&E actively participated in WHPA committees, sub-committees, and working groups. SDG&E reviewed and integrated strategies and recommendations from these groups to streamline the performance of the existing and potential programs. The WHPA committees, sub-committees, and working groups delivered multiple strategies, meeting minutes, and work products through multiple delivery channels in the HVAC industry and related IOU HVAC Programs. In addition, the WHPA's 2016 SMART goals provided effective high level strategies that were implemented in 2016. The collaboration of IOUs across multiple WHPA committees plotted a successful course to meet the HVAC Long Term Strategic Plan (LTSP) and market transformation goals in 2016.

9. SDGE3313- Locational Energy Efficiency (LEE)

Program Description:

Through a combination of energy efficiency and demand response activities, the Locational Energy Efficiency (LEE) Program sought to achieve energy and demand savings in parts of the distribution grid identified as nearing capacity. For this program, the goal was 2 MW of demand savings in an area served by two substations ("Target Area"). This is the first effort of its kind in the SDG&E service territory; therefore, an additional objective was to test the particular program design for use with future program offerings.

The LEE Program targeted both commercial and residential customers within the target area, with particular focus on commercial customer segments with load profiles that more closely align with substation peaks. The program utilized customer data and

previous program participation information to identify good candidates, help refine marketing communications, and increase the likelihood of success.

Implemented Strategies:

The program employed four primary strategies in seeking to increase energy efficiency and demand response results in the target area. First, the program offered enhanced incentives to residential and commercial customers for demand reductions that aligned with substation load profiles. The primary programs used for this purpose were Energy Efficiency Business Rebates (deemed) and Home Energy Efficiency Rebates (residential deemed). Second, the program conducted general marketing through SDG&E's website and letters to customers in the target area, and targeted marketing and outreach through presentations to target area customers and SDG&E account executives and trade professionals serving the area. Third, the program leveraged a Tubular LED (TLED) Pilot implemented through SDG&E Business Energy Solutions (direct install for small businesses) to install TLEDs only in the target area. Fourth, the program conducted a demand response pilot that sought to engage residential customers through various marketing appeals. Although the program did not meet the demand savings goal, while implementing the above strategies SDG&E derived many lessons learned and documented several best practices to inform future locational program iterations and other similar program proposals.

C. Statewide Industrial Energy Efficiency Programs

1. SDGE3228 SW-IND-Customer Services – Benchmarking

Program Description:

Up until the passage of AB 802 in 2016, SDG&E had been working with its customers through this benchmarking program to comply with AB 1103 (Non-Residential Building Energy Use Disclosure Programs). AB 1103 required a non-residential building owner to benchmark the building's energy use data and disclose the energy use data prior to the sale of the building; or lease; or financing of the entire building. AB 1103 concluded and was superseded by AB 802 in 2016, which requires more enhanced benchmarking requirements as described below.

Implemented Strategies:

In 2016, while non-residential benchmarking was not required, SDG&E continued to assist customers by offering tools and help with uploading building energy usage data to Portfolio Manager. SDG&E and its stakeholders, along with the other IOUs, worked closely with the CEC to continue to develop the AB 802 provisions which require (1) the utilities to provide energy consumption data for impacted non-residential and multifamily property owners or their agents upon request and (2) for the CEC to establish an updated benchmarking and public disclosure program for buildings.

2. SDGE3229 SW-IND-Customer Services – Audits Non-Res

Program Description:

The Comprehensive Audit Program is an Integrated Demand Side Management (IDSM) audit that produces a comprehensive audit report that is equivalent to an ASHRAE Level 2 report, at no cost to the customer. SDG&E offers two types of audits: (1) Category 1 audit, which consists of a high-level walkthrough that provides an equipment inventory and high level payback estimates of the identified measures; and (2) Category 2 audit, which is a more detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Category 2 audit is geared towards businesses that plan to implement recommended measures within one year of the audit being

completed. As an IDSM Program, audit scope and report for both the Category 1 and Category 2 audit includes energy efficiency, demand response, and distributed generation opportunities. These audits are performed by vetted engineering firms and the audit report delivers valuable insights about how and where energy is being consumed. The program is designed to provide businesses a roadmap on various actions they can take to reduce their overall energy consumption and reduce operating costs.

Implemented Strategies:

The Comprehensive Audit Program was redesigned and launched on June 1, 2016. The program was redesigned to include a total of 7 auditing firms, which are 5 more firms than the previous program. In addition to adding additional firms to the program, SDG&E also allows them to perform implementation services for customers once the audit has been completed. The audit program now offers two levels of audits, a Category 1 (High Level) and a Category 2 (Detailed Investment Grade) audit based on the customers' needs. In 2016, SDG&E received and completed six audits.

3. SDGE3231 SW-IND-Calculated Incentives-Calculated

Program Description:

The Calculated Incentives Subprogram provides customized incentives for non-residential energy efficiency retrofit projects involving the installation of high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards. New offerings provide a framework to encourage emerging technologies and deeper, more comprehensive retrofits.

Implemented Strategies:

In 2016, the program continued to experience reduced participation rates from its service territory customer base. The feedback SDG&E commonly received from customers, trade professionals, and internal stakeholders is that the additional time and expense of

complying with increasingly complex program requirements is dissuading customers from participating in this program. Many factors contributed to this feedback, including the complex Calculated Incentive Program requirements and intricacies such as the Custom Measure Project Archive (CMPA) parallel review process, collection of incremental measure cost, preponderance of evidence documentation for early retirement measures, and the increased frequency of measure energy savings drastically reduced or removed from offerings due to Commission Industry Standard Practice edict. As a result of this year's continually declining participation the program was able to fund shift a large portion of its program incentive dollars to SDG&E's Rebate Program to assist with its massive influx of project participation.

Despite the reduced participation, the program continued to achieve program improvements in 2016 including:

- Improving program reporting standards by transitioning to the new project tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP), which will now allow the program to leverage more project date milestones so that it may improve individual project timelines and increase project analytic data.
- Program staff continued to conduct improved training sessions for internal and external stakeholders monthly. Additional trainings included "Navigating EEBI" lunch and learn for Trade professionals and free-ridership trainings for SDG&E account executives and other internal stakeholders, which continue to reinforce and improve the knowledge of the program participant's on the various details and requirements of the program which should encourage future increased participation.

4. SDGE3233 SW-IND-Deemed Incentives

Program Description:

The Statewide Industrial Deemed Incentives Subprogram provides rebates for the installation of new energy efficiency equipment. Deemed retrofit measures have

prescribed energy savings and incentive amounts and are generally intended for projects that have well defined energy and demand savings estimates.

Implemented Strategies:

The Industrial Rebates Program experienced an unprecedented high volume of participation in 2016. As a result, the program experienced high demand and a dramatic increase in market participation due in part to market price declines for LED fixtures. SDG&E also observed the increase in contractor participation in SDG&E's service territory due to rebate changes that were made in other service territories. Additionally, large scale projects were submitted due to customer initiatives such as climate action goals or grant funding. To mitigate the demand on the program, rebate values were assessed and reduced to levels that were cost-effective to the program. The program changes only slightly reduced the demand on the program and eventually it was suspended in the beginning of the fourth quarter.

In addition, the continued shift in customer participation from the custom incentive program to the deemed rebates program contributed to a large influx of applications. Additional resources were required to process the uptake of application submittals.

Monthly trainings for trade professionals continued in 2016. These trainings provided a high level overview of the programs and gave the trade professionals access to work directly with program advisors. Trainings have been well attended and well received.

D. Statewide Agricultural Energy Efficiency Programs

1. SDGE3234 SW-AG-Customer Services-Benchmarking

Program Description:

Up until the passage of AB 802 in 2016, SDG&E had been working with its customers through this benchmarking program to comply with AB 1103 (Non-Residential Building Energy Use Disclosure Programs). AB 1103 required a non-residential building owner to benchmark the building's energy use data and disclose the energy use data prior to the sale of the building; or lease; or financing of the entire building. AB 1103 concluded and was superseded by AB 802 in 2016, which requires more enhanced benchmarking requirements as described below.

Implemented Strategies:

In 2016, while non-residential benchmarking was not required, SDG&E continued to assist customers by offering tools and help with uploading building energy usage data to Portfolio Manager. SDG&E and its stakeholders, along with the other IOUs, worked closely with the CEC to continue to develop the AB 802 provisions which require (1) the utilities to provide energy consumption data for impacted non-residential and multifamily property owners or their agents upon request; and (2) for the CEC to establish an updated benchmarking and public disclosure program for buildings.

2. SDGE3236 SW-AG-Customer Services – Audits Non-Res

Program Description:

The Comprehensive Audit Program is an Integrated Demand Side Management (IDSM) audit that produces a comprehensive audit report that is equivalent to an ASHRAE Level 2 report, at no cost to the customer. SDG&E offers two types of audits: (1) Category 1 audit, which consists of a high-level walkthrough that provides an equipment inventory and high level payback estimates of the identified measures; and (2) Category 2 audit, which is a more detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Category 2 audit is geared towards businesses that plan to implement recommended measures within one year of the audit being

completed. As an IDSM Program, audit scope and report for both the Category 1 and Category 2 audit includes EE, demand response, and distributed generation opportunities. These audits are performed by vetted engineering firms and the audit report delivers valuable insights about how and where energy is being consumed. The program is designed to provide businesses a roadmap on various actions they can take to reduce their overall energy consumption and reduce operating costs.

Implemented Strategies:

The Comprehensive Audit Program was redesigned and launched on June 1, 2016. The program was redesigned to include a total of 7 auditing firms, which are 5 more firms than the previous program. In addition to adding additional firms to the program, SDG&E also allows them to perform implementation services for customers once the audit has been completed. The audit program now offers two levels of audits, a Category 1 (High Level) and a Category 2 (Detailed Investment Grade) audit based on the customers' needs. In 2016, SDG&E received and completed four audits.

3. SDGE3237 SW-AG-Calculated Incentives-Calculated

Program Description:

The Calculated Incentives Subprogram provides customized incentives for non-residential energy efficiency retrofit projects involving the installation of high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards. New offerings provide a framework to encourage emerging technologies and deeper, more comprehensive retrofits.

Implemented Strategies:

This year the program continued to experience reduced participation rates from its service territory customer base. While the agricultural market sector is a very small market and participation was low in 2016, SDG&E continues to look for strategies and

interventions that will address the feedback received from our customers and stakeholders. The feedback SDG&E commonly receives from customers, trade professionals, and internal stakeholders is that the additional time and expense of complying with increasingly complex program requirements is dissuading customers from participating in this program. Factors contributing to this feedback include the complex Calculated Incentive Program requirements and intricacies such as the Custom Measure Project Archive (CMPA) parallel review process, collection of incremental measure cost, preponderance of evidence documentation for early retirement measures, and the increased frequency of measure energy savings drastically reduced or removed from offerings due to Commission Industry Standard Practice edict. As a result of this year's continually declining participation, the program was able to fund shift a large portion of its program incentive dollars to the rebate program to assist with its massive influx of project participation. Despite the reduced participation, the program continues to achieve program improvements in 2016 including:

- Improving program reporting standards by transitioning to the new project tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP), which will now allow the program to leverage more project date milestones so that it may improve individual project timelines and increase project analytic data.
- Program staff continued to conduct improved training sessions for internal and external stakeholders monthly. Additional trainings included "Navigating EEBI" lunch and learn for Trade professionals and free-ridership trainings for SDG&E account executives and other internal stakeholders, which continue to reinforce and improve the knowledge of the program participant's on the various details and requirements of the program which should encourage future increased participation.

4. SDGE3239 SW-AG-Deemed Incentives

Program Description:

The Statewide Agricultural Deemed Incentives Subprogram provides rebates for the installation of new energy efficiency equipment. Deemed retrofit measures have prescribed energy savings and incentive amounts and are generally intended for projects that have well defined energy and demand savings estimates.

Implemented Strategies:

The Agricultural Rebates Program experienced a relatively high volume of participation in 2016. As a result, the program experienced high demand and a dramatic increase in market participation. SDG&E observed the increase in contractor participation in SDG&E's service territory due to rebate changes that were made in other service territories. Additionally, large scale projects were submitted due to customer initiatives such as climate action goals or grant funding. To mitigate the demand on the program, rebate values were assessed and reduced to levels that were cost effective to the program. The program changes only slightly reduced the demand on the program and eventually it was suspended at the end of the third quarter.

In addition, the continued shift in customer participation from the Custom Incentive Program to the Deemed Rebates Program contributed to a large influx of applications. Additional resources were required to process the uptake of application submittals.

Monthly trainings for trade professionals continued in 2016. These trainings provided a high level overview of the programs and gave the trade professionals access to work directly with program advisors. Trainings have been well attended and well received.

E. Statewide Lighting Programs

1. SDGE3240 SW-Lighting Market Transformation

Program Description:

The Lighting Market Transformation Subprogram encompasses a statewide program strategy that coordinates IOU efforts to promote efficient lighting technologies and best practices in California. It entails development of innovative data-driven program strategies to adapt utility lighting programs to the ever-changing energy and lighting markets in support of the Strategic Plan. The program tracks, coordinates, and provides collaboration opportunities for utility, government, and industry lighting market transformation activities. The program oversees the progression of lighting solutions across utility programs, such as Emerging Technologies, Lighting Innovation, Primary Lighting, and Codes and Standards, as well as Commercial, Industrial, and Agricultural incentive program lighting measures. The program is particularly instrumental in the development of Lighting Innovation Program concepts, trials, and demonstrations. Lighting Market Transformation helps ensure efficient progression of lighting solutions into and out of customer energy efficiency programs.

Implemented Strategies:

During 2016, SDG&E was involved with one project under the Lighting Market Transformation Subprogram, which was led by SCE.

More details regarding the Statewide Lighting Program efforts will be provided in the June 2016 Lighting Market Transformation Annual Report.

2. SDGE3241 SW-Lighting-Lighting Innovation – ETPC Measure Development (MD)

Program Description:

The Lighting Innovation Subprogram evaluates products or program approaches new to the market, which have potential to eventually enter the Primary Lighting Program or Commercial, Industrial, and Agricultural programs. Lighting Innovation trials, pilots, and studies are administered to collect data on the sales, installation, marketing and other

business aspects of the lighting industry to determine data-driven recommendations and influence future program designs. Showcases and field placement projects are conducted when applicable.

Implemented Strategies:

During 2016, SDG&E administered several significant projects in support of the goals of the Lighting Innovation Program. SDG&E worked closely with SCE to develop and deploy the Advanced Lighting Control System ("ALCS") Pilot (also referred to by SCE as the "Sustainable Office Lighting Trial Program and Study Plan"). The ALCS Pilot is designed to evaluate the field performance of lighting control systems installed by three distinct types of electricians: 1) those with a CALCTP ("California Advanced Lighting Controls Training Program") certification; 2) those with controls manufacturer training; and 3) those with no specialized controls training. Cadmus has been selected to conduct the program evaluation, and depending upon the results of that long-term evaluation which is expected later in 2017, additional content may be added to the CALCTP training curriculum.

SDG&E also had the unique opportunity to partner with the San Diego Padres for the "Going To Bat" promotion. During Padres home games, fans would be prompted to text a code which would then reply with a link to a no-cost 5-pack of LEDs to be ordered through Marketplace. Over the course of the season, SDG&E distributed 5,000 5-packs of LEDs to customers which led to efficiency and greater awareness of Marketplace.

During the course of the 2016 program year SDG&E continued the presence of pop-up retail events operated by a third party vendor. These Lighting Fair events have proven to be a very effective method of reaching large audiences with special promotions that encourage customers to purchase and install new LED lamps in their homes. Hosted at popular locations with heavy foot traffic (home and garden shows, December Nights at Balboa Park, corporate Earth Day events, etc.), customers are offered special 8-packs of LED and BR30 lamps. Once customers try these lamps, follow-up sales at SDG&E's Marketplace website or area retailers are boosted as a result of the success and appeal of the LEDs to new users.

3. SDGE3242 SW-Lighting-Lighting Innovation – ETPC Pilots

Program Description:

Per Advice Letter 2951-E/2512-G filed on September 1, 2016, this program was consolidated into SW-Lighting-Lighting Innovation-ETPC MD (SDGE3241).

4. SDGE3243 SW-Lighting-Lighting Innovation – ETPC Advanced LED

Program Description:

Per Advice Letter 2951-E/2512-G filed on September 1, 2016, this program was consolidated into SW-Lighting-Lighting Innovation-ETPC MD (SDGE3241).

5. SDGE3245 SW-Lighting-Primary Lighting

Program Description:

The Primary Lighting Program offers upstream rebates to participating manufacturers to reduce the retail cost of energy-efficient lighting products. It introduces new premium-efficiency lighting products into the market and attempts to influence the future purchasing and installation behaviors of residential customers. The Primary Lighting Program is based on a mass market approach targeted at all SDG&E residential customers and promotes primarily LEDs as well as selected "Specialty" CFLs. During 2016, SDG&E's Primary Lighting Program worked with several different manufacturers and supported dozens of different models or configurations of residential lighting products. Participating manufacturers established and maintained an ongoing relationship with area retailers to sell qualifying products identified with special logos or signage.

Implemented Strategies:

During the course of the 2016 Program Year, SDG&E's Primary Lighting Program made continuous modifications to the list of products and retailers participating in the program in order to accommodate the increasing specifications of CEC LEDs. SDG&E worked with those manufacturers providing CEC-Specification lamps and their affiliated retailers to properly position these new products and effectively promote them to customers.

SDG&E also worked with manufacturers to promote efficient lighting in many hard to reach locations, such as small grocery stores, drug stores, and resale shops. By doing so, SDG&E expanded the reach of efficient lighting into avenues and reached customers that may not be near or frequently shop a larger retail location.

F. Local Institutional Partnerships:

1. SDGE3266 LInstP-CA Department of Corrections Partnership

Program Description:

The California Department of Corrections and Rehabilitation (CDCR) 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 IOUs.

Implemented Strategies:

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 2016, CDCR re-established a pool of qualified ESCOs, and the IOUs provided a full day, in-depth training on energy efficiency programs, policies and procedures.

Regular management and executive team meetings with program administrators have been key to identifying and managing projects, and to proactively addressing any challenges the program may have faced. The CDCR Partnership has ongoing challenges of finding funding for projects. OBF has been the primary source of funding and is supplemented by Special Repairs Project funding.

2. SDGE3267 LInstP-California Community College Partnership

Program Description:

The California Community Colleges (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 approved $15.1M for the 2013-2016 program cycle, which was utilized to maintain sustainable, comprehensive energy management at campuses served by

California's four IOUs.

The program has a hierarchical management structure to ensure successful implementation. The management team meets monthly to conduct business, whereas the executive team meets 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.

Implemented Strategies:

Two regional Campus Forums were hosted in 2016 at campuses in Northern and Southern California, serving as a venue for districts to share successes and strategies for overcoming obstacles. SDG&E's Partnership team presented at both Forums, providing time-sensitive updates on new technologies, information on program implementation, and direct assistance to districts in attendance. The Partnership also participated in several Community College Regional Facilities Management meetings statewide to update colleges on the Partnership and Proposition 39 activities, and to provide training and education to facilities staff for the program.

The CCC/IOU Partnership has provided extensive outreach and technical support to the districts within the 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 770 energy projects funded (approximately 356 of which were installed and closed out by the end of 2016). All 72 Community College districts throughout California are actively participating in the program and have benefited.

3. SDGE3268 LInstP-UC/CSU/IOU Partnership

Program Description:

The UC/CSU/Utility Energy Efficiency Partnership is a unique, statewide program

which includes the four California IOUs as well as the recent addition of LA Department of Water and Power (LADWP), in partnership with the University of California (UC) and the California State University (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. Since its establishment in 2004, the Partnership has provided approximately 65 MW of demand reduction and delivers approximately and 467 million kWh/yr and 25 million therms/yr in energy savings.

Implemented Strategies:

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 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 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.

4. SDGE3269 LInstP-State of California/IOU Partnership

Program Description:

The State of California Energy Efficiency Partnership Program shares best practices and implements energy efficiency projects for immediate and long-term energy savings and peak demand reduction at state owned facilities served by the IOUs and other partners.

The Partnership assists state agencies, under the Executive Branch of the state government, to comply with Executive Order S-20-04 (Green Building Initiative). The partnership also assists the Judicial Council of California (JCC), the administrative division of the Judicial Branch, to achieve their energy efficiency goals. These efforts will help reduce the amount of energy the state purchases off the electrical grid.

Implemented Strategies:

This Statewide Partnership provides enhanced custom incentives and core programs for projects implemented in California's state owned and leased buildings. Additionally, the IOUs provide services for education and training activities. An objective of the partnership is to integrate and coordinate various utility programs to leverage incentives and encourage customers to expand their focus beyond energy efficiency.

Starting in 2016, the Partnership acquired a third party Program Administrative Manager to assist with coordinating and implementing the resources listed above.

Partnership activities achieve cost effective energy savings through energy efficiency, retro-commissioning, equipment retrofits, new construction, third party programs, demand response programs, and any applicable self-generation programs. The partnership also seeks opportunities to integrate utility incentives with financing options. This includes state financing through the GS $mart Program, the American Recovery and Reinvestment Act Revolving Loan Fund, or SDG&E's OBF Program to increase program participation in the Partnership effort and encourage additional energy projects.

5. SDGE3270 LInstP-University of San Diego (USD) Partnership

Program Description:

SDG&E and the USD offer the Energy Efficiency Partnership Program. The program is designed to create a more sustainable campus with a smaller environmental footprint through the adoption and implementation of a robust Climate Action Plan (CAP) anchored in energy efficiency that will reduce Green House Gas (GHG) emissions. USD will continue to create policies and procedures that encourage and facilitate long-term energy savings

for the university through implementation of the Sustainability Strategic Plan and CAP. Through intentional outreach targeted towards students, staff, and alumni with an emphasis on behavior modification, the program is also intended to educate campus audiences in identifying and adopting energy saving practices not only on campus, but also in their careers and homes.

Implemented Strategies:

Successful partnership activities in 2016 included:

- The Office of Sustainability held 39 events in 2016 that addressed sustainability, energy efficiency or climate change that reached more than 4,500 people.
  - The Office of Sustainability conducted resource conservation training and education workshops for all students involved in orientation and all resident assistants on campus to help create a more mindful and educated community that reached approximately 300 student leaders.
  - The Office of Sustainability spoke at five different presentations in 2016 highlighting the Partnership, energy savings, efficiency projects, and local climate involvement that reached approximately 95 people.
- USD developed and adopted a comprehensive Climate Action Plan (CAP) anchored in energy efficiency with technical input from USD's Energy Policy Initiatives Center (EPIC) and various on campus constituencies including the Sustainability Task Force. Reduction targets were set consistent with the City of San Diego for a 15% reduction in emissions by 2020 and 50% reduction by 2035, energy reductions of 25% under projected consumption in 2020, and 35% under projected consumption for 2035. Next steps include the CAP Implementation Plan and development of a Sustainability Strategic Plan.
- The Office of Sustainability continues to advertise resources and tips for energy efficiency and conservation on a regular basis through its website. In addition, a new monthly newsletter is sent out via email to all university faculty, staff, and students to keep the campus up to date on sustainability projects, programs, and energy conservation tips.

- The Office of Sustainability continues to implement the Green Office Certification Program to recognize offices and departments on campus on their energy efficiency and sustainability efforts. The program was updated in 2016 to increase a shared accountability on campus, including a re-certification process for offices that have completed a Green Office Certification prior to Fall 2016 and are looking to continue their efforts to green their office. After audits are complete, offices are then ranked and recognized throughout the USD community. A total of 61 offices have been certified, with 26 new certifications in 2016.
- Continued the Sustainability Heroes Program to recognize students, faculty, and staff on sustainable behaviors on or off campus. Received a total of 15 nominations for 4 awardees.
- Developed energy planning guidelines and began work on a dashboard for utilities to share with the university community.

6. SDGE3271 LInstP-San Diego County Water Authority Partnership

Program Description:

On November 8, 2012, the CPUC in D.12-11-015 authorized certain energy efficiency programs to be delivered to California utility customers for the years 2013 through 2016, including the SDCWA Energy Efficiency Partnership. As a result of this partnership, SDG&E and SDCWA began work to develop a Strategic Water-Energy Plan and to further explore the leak loss detection program. An MOU was developed and executed by SDG&E and SDCWA. The MOU included:

- Collaboration and assistance in the identification and implementation of joint projects and to allocate funding from each entity towards joint projects as appropriate
- Negotiate and execute projects with vendors to implement scopes of work
- Create co-branding opportunities between both entities
- Complete final reports by project with contractor support as necessary

- Hold monthly meeting with SDCWA to further determine additional activities to support the partnership.

Implemented Strategies:

Strategic Water-Energy Plan - Over the past ten years, numerous stakeholders throughout the state have explored means of delivering joint energy and water programs (popularly referred to by some as "the one-stop shop"); however, to-date, no utility partnerships have implemented a fully integrated water-energy nexus program that leverages the joint program infrastructures; marketing, education and outreach channels; and efficiency investments of energy and water utility partners. Water Energy Innovations, Inc. (WEI) was brought on to help develop a Strategic Water-Energy Partnership Plan that will provide a framework for accelerating adoption of cost effective energy and water resource efficiency through joint delivery of programs and services for SDG&E and SDCWA energy and water customers. The intent of the Plan is to position the partners to implement strategies identified within the final report during 2017 and beyond.

Leak Loss Detection Program - California's water infrastructure is an emerging target for energy efficiency and greenhouse gas (GHG) emission reduction efforts (CPUC Rulemaking 09-11-014; California State Assembly Bill (AB) 32. However, allocating energy efficiency and GHG reduction dollars to water efficiency programs requires a method for calculating the energy intensity (EI) of water, and reliable, verifiable monitoring of energy and carbon savings. With a foundational water system EI model already built for the Otay Water District, there was an opportunity identified to extend and test the model for evaluating programs that jointly conserve both water and energy resources, including forecasting energy savings from conservation programs and leak loss monitoring and remediation. The Center for Water-Energy Efficiency, UC Davis (CWEE) was selected to extend their research from previous years into the next phase which will enhance the dynamic data tool by integrating customer consumption data with the existing datasets utilized for the EI analysis, build a tool to estimate the projected water and energy savings based on conservation programs targeted by customer type and/or by pressure zone, and utilize the water balance tool and the integrated EI tool for leak loss detection throughout

the region. The tools will be modeled using the data from the Otay Water District with the intent of being able to expand to other water districts throughout the state.

G. Local Government Partnerships:

1. SDGE3272 LGP – City of Chula Vista Partnership

Program Description:

The Chula Vista Local Government Partnership's goal is to create innovative approaches to improving community and municipal energy efficiency by integrating and leveraging the resources of multiple, diverse City departments. The program components include municipal facility efficiency improvements, strengthened building energy codes and inspections, energy-saving development planning and design, community-based energy conservation education, facility evaluations and financing assistance. The program serves City of Chula Vista residents and businesses, estimated at 265,000 and 13,000, respectively, while also lending support to neighboring South Bay cities' energy efficiency efforts.

Implemented Strategies:

The SDG&E/Chula Vista Partnership continued to meet and exceed its designated objectives in creating new energy efficiency opportunities in the community. Below are specific highlights from the various components:

- Municipal Energy Management (Non-Resource Program)

In late 2016, SDG&E initiated a city-wide interior light LED retrofit for all City-owned buildings. This project builds upon a pilot project from the previous program cycle where 200 fixtures were converted to LED at two City facilities. In addition, to demonstrate the City's leadership, staff continued to participate in regular trainings designed to educate on Leadership in Energy and Environmental Design (LEED) and Existing Building Operations and Maintenance (EBOM) best practices. Staff also moved forward in working to certify City Hall Building A with the LEED EBOM certification, a process that will continue into 2017.

- Community Energy Conservation & Upgrade Outreach (Non-Resource Program)

City staff completed over 624 business energy evaluations (through the Free Resource & Energy Business Evaluation or FREBE) to promote energy and water saving opportunities and SDG&E incentive programs. In addition to educating business owners and managers, the evaluations generated over 305 direct referrals to the SDG&E Business

Energy Solutions (BES) program. For residents, City staff completed 75 home energy & water check-ups evaluations, which generated 176 referrals (direct & non-direct) for SDG&E core and third party residential energy efficiency programs. Staff also participated in 35 community events where it engaged with more than 1,000 community members. City of Chula Vista also continued to support PACE financing programs by working with the state to create "Go Green Financing" materials for Chula Vista and incorporating them, and other financing information, into all energy efficiency outreach. City staff also serves as valuable impartial advisors for residents and business that have questions and may not trust contractors or PACE program staff. With this support, all PACE programs were able to finance over $20 million in residential and commercial energy efficiency, renewable energy or water efficiency retrofits in 2016. The City also completed its participation in the two-year Georgetown University Energy Prize in 2016, which aims at engaging residents to make lasting equipment changes and short-term behavior changes to save energy. The City is committed to working with the university to keep providing energy data and studying results, even though the official competition has ended. Finally, over 10,890 "hard-to-reach" individuals were engaged through the Empower Hour (youth), Library Energy Lounges (seniors & others) and the Green Homes for All (low-income households) programs.

- Sustainable Communities Program (Non-Resource Program)

In 2016, Chula Vista continued to host regular Energy Code/CalGreen trainings for City staff and hosted similar trainings for community members, builders and contractors to help improve compliance and energy savings. To better assist developers in complying with energy code, the City continued to staff the "Sustainability Desk" which assisted staff and developers with more than 100 one-on-one meetings related to energy code issues and more than 15 secondary field audits. Finally, City staff continued to work with public health officials and community groups to identify innovative opportunities to integrate energy efficiency into public messaging, services and infrastructure as part of a new citywide "Healthy Communities" initiative.

- Regional Collaborations (Non-Resource Program)

In coordination with SDG&E and the San Diego Association of Governments, Chula Vista continues to lead the South Bay Energy Action Collaborative or SoBEAC, which provides technical and program peer support to smaller neighboring cities in order to catalyze energy efficiency initiatives in their communities. As a result, 420 business energy evaluations (through the Free Resource & Energy Business Evaluation or FREBE) were conducted in National City which led to 152 referrals to the SDG&E BES program. In addition, National City continued working with an ESCO company with a goal of saving energy at municipal facilities. Staff representing SoBEAC participated in at least one community event in each community (except Coronado), including two community events in neighboring South Bay cities where more than 22,000 community members were in attendance. At a broader regional level, the City of Chula Vista serves as a steering committee member for the San Diego Regional Climate Collaborative and San Diego Regional Energy Partnership (SDREP), which has organized quarterly trainings, energy efficiency assistance programs, and information sharing for public agencies across the region on energy and climate-related topics. Specifically, the City began leading the Green Real Estate and Benchmarking Coach tasks in 2016.

2. SDGE3273 LPG – City of San Diego Partnership

Program Description:

The City of San Diego Local Government Partnership (LGP) is a catalyst for increasing energy efficiency in City operations and in the community. Building on the success of previous funding cycles, the goal of the 2016-2020 City of San Diego Energy Efficiency Partnership is to increase the City's role in the region as an environmental steward, leader in best practices, and to support the City's Climate Action Plan. The five program areas focus on improving municipal building energy efficiency, codes & standards, community education, the San Diego Regional Energy Partnership (SDREP), and overall management of the partnership activities. While this is a non-resource program, savings resulting from the City's LGP activities are captured in other programs offered by SDG&E.

Implemented Strategies:

- City staff received certification for the Certified Energy Managers program.
- OBF applications for municipal facilities submitted to SDG&E for approval and review multiple times over an 18 month period. Awaiting SDG&E approval of applications and rebate program availability.
- The City continues to work on HVAC retrofit projects with the Facilities Department to install new HVAC units at facilities not associated with an energy audit.
- City submitted Street Lighting Accelerator Model for showcase project (post-top adaptive controls).
- The LEED EBOM training continued at the Environmental Services Department's Ridgehaven building. New Energy Star Rating has been updated for the building. City is currently within the reporting period and has applied for LEED EBOM review for the Ridgehaven building.
- City staff provided an update at the Light Savers Conference and the International Smart Cities Congress on the Citywide Adaptive Control Street Lighting Program, standards, best practices and meter rate policy progress.
- City staff and contracted consultant trained 50 City staff within Public Works and Development Services on implementation and updated standards and best practices on Citywide adaptive control LED outdoor lighting standards.
- Project implementation: PS64 energy Audit with WISE, rate analysis for 10 Muni Pump Station, lighting rebates for MOC parking lots and Otay Water Treatment Facility outdoor parking.
- City staff continued to provide presentations and updates on the Envision American Adaptive control "Smart" Street Lighting Program in Austin in May.
- Center for Sustainability staff and Development Services Department staff have implemented a Code Coach program similar to the City of Chula Vista for potential energy and green building code compliance.

- The City completed ASHRAE Level 1 audits at Mission Trails. All reports have been completed and the City is proceeding with developing its implementation plan.

3. SDGE3274 LGP – County of San Diego Partnership

Program Description:

The Partnership is being offered by SDG&E and the County of San Diego (County). The Partnership is a savings and education program designed to deliver net energy savings, peak demand savings, and sustained efficiency through the implementation of both internal and external energy efficiency education and outreach programs, community-based energy efficiency implementation programs, and implementation projects at County facilities. The County is a public agency containing many large-scale departments that fulfill different roles in implementing the goals and objectives of the Partnership. The Partnership will assist the County of San Diego in implementing several of its Operational and Community goals contained within its 20l6-2020 Strategic Energy Plan Implementation, including:

- Reducing Energy Usage and Cost
- Reducing Embodied Energy in Potable Water Use
- Green Buildings and Infrastructure
- Monitoring and Communication/Education

The Partnership will also support the CA Long-Term Energy Efficiency Strategic Plan goals:

- Local governments lead adoption and implementation of reach codes stronger than Title 24 on both mandatory and voluntary basis
- Strong support from local governments for energy code compliance enforcement
- Local governments lead by example with their own facilities and energy usage practices
- Local governments lead their communities with innovative programs for energy efficiency, sustainability and climate change
- Local government energy efficiency expertise becomes widespread and typical

The County is a public agency containing many large-scale departments that fulfill

different roles in implementing the goals and objectives of the Partnership. Listed below are the three County departments that will be implementing a total of five projects or programs under the Partnership:

- Department of Planning and Development Services (DPDS)
  - Energy and Climate Programs
- Department of Parks and Recreation (DPR)
- Energy Efficiency and Conservation Outreach Program
- Department of General Services (DGS)
  - Strategic Energy Plan Implementation

Implemented Strategies:

- Department of Planning and Development Services (DPDS) Energy Code Training and Zero Net Energy Education

County Plans Examiners and Building Inspectors participated in seven trainings to improve their knowledge and application of California's 2016 Building Energy Efficiency Standards. In addition, PDS Staff attended LEED training courses to expand understanding of the green building certification program.

- Customized Climate Action Plan

The Energy Policy Initiatives Center (EPIC) completed the preliminary draft of the Baseline Community Greenhouse Gas (GHG) Emissions Inventory and Ascent completed the draft of the Baseline Operation GHG Emissions Inventory for the development of a Climate Action Plan that meets state requirements and addresses reductions of electricity, natural gas, and water. The County also revised the Community-wide GHG Inventory and prepared Community-wide GHG Projections for years 2020, 2030, 2040, and 2050, as well as developed 2020 and 2030 GHG reduction targets based on the State's Scoping Plan.

- Stakeholder Engagement

In 2016, DPDS Staff was engaged in a robust community outreach strategy to incorporate diverse stakeholder input in the development of the County's Climate Action Plan. These outreach efforts meet the County's Local Government Partnership objective to work with the community to develop a comprehensive Climate Action Plan that addresses

reductions in electricity, natural gas, and water use. Stakeholder outreach activities included the following:

- Hosted tables at 60 community events
- Attended 5 stakeholder group events
- Conducted 21 one-on-one stakeholder meetings
- Hosted 4 facilitated visioning sessions
- Facilitated 2 public workshops

- Marketing

DPDS Staff wrote four articles promoting County achievements towards Local Government Partnership Goals. The articles were published in DPDS's monthly newsletter e-blast and distributed to approximately 2,000 contacts.

- Department of Parks and Recreation (DPR)Community Presentations
  - Sandburg Elementary Math & Science Night
  - STEM Expo at Petco Park
  - Energy Presentation at Mount Miguel High School
  - Earth Day Week (COC, Point Loma, Camp Pendleton)
  - Healthy Kids Day at YMCA Oceanside
  - Warrior Hike El Capitan
  - Civilian Affairs Battalion 416 Family Day Camp Pendleton
  - Aaron Price Fellows a Taste of Government Services
  - Transition to Adulthood Event
  - Caregiver Recognition Event
  - Live Well San Diego 5k and Health Expo
- Joint Collateral Pieces with SDG&E and County of San Diego
  - "Stay Connected" Brochure (Multi-Lingual Brochure)
  - "Stay Connected" Tradeshow Display
  - Energy Saving Adventures Program Public Service Announcement (debuted at the Movies in the Park series launch)
  - Movies in the Park Gold Sponsorship

- The Energy Saving Adventures program conducted the following educational programs (program highlights):
  - Neighborhood to Nature: Climate, Habitat, Humans (in partnership with Earth Discovery Institute
  - Jack's Pond Presentation
  - La Jolla Beach Clean Up
  - Balboa Park Scavenger Hunt (in partnership with Balboa Park Cultural Partnership)
- Department of General Services (DGS) Energy and Water Conservation and Efficiency

This department completed three energy retrofit projects using SDG&E EEBR and EEBI rebate programs and OBF. Whole building energy models were completed for five facilities. Implementation work will be conducted in early 2017. Data from submeters will be collected for a year to determine the effectiveness of implementation work. After the year of data is collected and analyzed, it will be plugged into the models to further refine the analyses. Retrocommissioning efforts also continued at the COC, with the aid of County of San Diego's engineering consultant, and will be completed spring 2017.

Energy and Sustainability Division (ESD) will move forward toward LEED EBOM certification of the Ramona Library. A task order was negotiated with the new consultant to assist in the data gathering, analysis, performance improvement, and certification of this facility. The consultant gathered all the necessary data and has presented their report. ESD is currently analyzing it to determine what modifications will be made in order to qualify for LEED EBOM Silver or Gold.

Finally, the County installed new cooling tower treatment technology at 4 County sites in 2016.

- New construction

The first County owned ZNE building, Alpine Library, opened in May; early issues with coordinating controls systems with the networked Building Automation System are being addressed, and tracking of consumption and production will begin in the first quarter

of 2017. The County has registered this project with the Living Building Challenge to track and certify performance over the first 12 to 16 months of operations to verify that it is functioning as a zero net energy building. Updates and calibration of energy model will be provided in upcoming quarterly reports. A second ZNE library is currently under construction, at Imperial Beach which is scheduled to open in early 2017. Two ZNE RFPs were released in the fourth quarter for the HHSA North County facility and Borrego Springs Library. Contracts for these projects were awarded.

- Demand response – Smart building platform

Several additional facilities were brought into the County's networked centralized Building Automation System during 2016 bringing the total number of facilities monitored and controlled by this system from 13 to 22. The commissioning agent also developed a strategy for demand response at the County Operations Center and the campus participated in 3 demand response events during September and October.

- Utility monitoring and reporting:

The County reported operations greenhouse gas inventory into the Climate Registry Information System, completed the verification process for emissions and received Reasonable Assurance status from The Climate Registry.

- Communication and training

The County received Beacon Spotlight Awards for performance: platinum level for agency greenhouse gas emission reduction and sustainability best practices.

- Coordinated training for staff as follows:
  - CEM training attended by 1 staff member
  - Attended Water build, Los Angeles, Oct 4, Green build, Los Angeles, Oct 5, 6, 7
  - Attended the Energy, Utility & Environment Conference Feb 3, 4, 5
  - Attended the Net positive energy and water conference Feb 18, 19
  - Attended the following trainings at the EIC:
    1. What's New in 2016 for Title 24 Non-Residential Standards, Feb 9
    2. Energy considerations in the WELL building standard, May 3
    3. Advanced energy management strategies, Aug 9

4. Innovative ideas with HVAC DDC, Nov 2
5. Locational Energy Efficiency Program Workshop, June 2
6. Zero Net Energy: From Ideas to Reality for Buildings & Communities, June 7
7. Non-Residential Standards for Energy Consultants, July 19
8. Sustainable Strategies for Businesses, Sept 14
9. Understanding Luminaires, Oct 25
10. LEED Core Concepts, Nov 10
11. LEED Green Associate Training, Dec 8
12. Utility Rates 201: Understanding Time of Use Rates, Dec 14

- Education outreach efforts
  - Presented at SEEC forum about ZNE at the Alpine Library
  - Marketed and hosted a series of water reduction, home energy, and alternative transportation workshops for County employees at the COC and CAC
  - Hosted a booth at the County Earth Day to showcase energy and water efficiencies.
  - Hosted several Lighting Fairs at County campuses. The goal was to have a robust event for County employees that focused on environmental stewardship and sustainability. Energy saving LED light bulbs were sold at a deep discount to inspire people to make the switch to efficient lighting. Throughout 2016, the County hosted four lighting and water conservation fairs. More than 585 county staff participated in the events, purchasing a total of over 6,000 LED lights.
- San Diego Regional Energy Partnership

Staff attended SD Region Climate Collaborative meetings, engaged in discussions about SDREP activities, and participated in teleconferences with CPUC staff.

- Statewide efforts

Staff participated in annual Statewide Energy Efficiency Collaborative (SEEC) Forum in Riverside and in creating water reuse practice guide for design professionals.

4. SDGE3275 LGP – Port of San Diego Partnership

Program Description:

The San Diego Unified Port District (Port) Energy Efficiency Partnership (Partnership) is to increase the Green Port Program's role in the region as an environmental steward, progress achievement of the Port's Climate Action Plan (CAP) greenhouse gas (GHG) reduction goals, and build on the success of the previous Partnership funding cycle. These goals will be accomplished by maximizing energy efficiency on Port tidelands and providing Port tenants, staff, and the public the necessary tools to make decisions that continue to promote energy efficiency. The Port's Partnership components include energy efficiency education and outreach to Port employees, implementation of strategies that will contribute to the CAP, education and outreach to businesses within the Port's jurisdiction through the Green Business Network (Network), and regional initiatives through the San Diego Regional Energy Partnership (SDREP).

Work done through the Partnership is concentrated within the Port's five member cities: San Diego, Coronado, National City, Chula Vista, and Imperial Beach. These combined efforts aimed to reduce energy usage and lower peak energy demands on Port tidelands.

Implemented Strategies:

In 2016, the Port made significant strides towards increasing energy efficiency at Port facilities and public areas.

In March 2016, the Port's third street lighting retrofit project was completed, successfully retrofitting over 290 park, walkway, and street lights to light-emitting diodes (LEDs). This project was estimated to save 230,000 kWh annually and 161 metric tons of carbon dioxide equivalent. In the second quarter, the Port finalized the OBF application for the interior lighting retrofit project at its Administration Building and the final loan

agreement was signed in May 2016. In the fall, Port staff from the Energy & Sustainability team began working with the Engineering-Construction department to design the lighting retrofit of a renovated expansion of the current Port Administration Building, which is anticipated to be completed in fall 2017. Energy efficiency measures will include LED lights and HVAC upgrades, and will leverage SDG&E rebates and incentives wherever possible. In November 2016, Port staff partnered with the San Diego Convention Center to conduct a lighting retrofit of the Convention Center's parking structure. The project retrofitted over 2,500 lights to LED lighting fixtures with timed sensors. The new lighting system stays at a dim level until movement is sensed in the area, resulting in approximately a 30 percent (%) reduction in monthly electrical consumption. Throughout the quarter, the Port uploaded its 130 electrical meters and 100 water meters into Energy Star Portfolio Manager. Having this data available on Portfolio Manager allowed staff to better understand the Port's annual energy and water consumption and showcased which buildings could be targeted for retrofits and energy efficiency projects.

The Port further developed the Green Business Network (Network) program in 2016 by increasing engagement with current members through workshops, educational resources, and technical tools; as well as increasing membership through outreach to Port tenants and sub-tenants. The Network is a voluntary program available to all Port tenants and sub-tenants that provides tools and resources to help members reduce their energy consumption and overall environmental impact. The Network has grown to 87 participating tenant members which include waterfront and maritime-related industries, hotels, marinas, restaurants, and small retail shops. During 2016, services included energy evaluations, quarterly training workshops, a dedicated website (http://www.greenportnetwork.org/), promotional videos for Port tenants that have implemented energy efficient and sustainable business practices, marketing packages to promote business implementation of energy efficient best practices, and Sustainability Circles® (the development of five year action plans that target energy efficient project opportunities). Four quarterly educational workshops were held in 2016, where over 70 participants learned about energy efficient technologies, renewable energy, smart

buildings, electric vehicles, and environmental employee engagement best practices. Network members received bi-monthly newsletters highlighting upcoming SDG&E trainings, tenant sustainability projects, and energy efficiency tips and project ideas. The open rate of the Network newsletters ranged from 25%-34%, which is above the industry standard. Port staff began working with a website developer/consultant to create enhancements to the Network Member Portal to allow Port tenants and sub-tenants to more readily access energy audit data, sustainability tips, and funding opportunity notifications. The additions to the Network Member Portal will be finalized in 2017. Three Network businesses completed the Sustainability Circles® program in January, adding to the 10 businesses that completed the program. In many of the 5 year plans, businesses focused on energy efficiency by including LED lighting retrofits and employee engagement campaigns. In March 2016, the Port received the six month progress report of the 10 Network members that had completed the program. Each year, Network members are honored by Port staff at an End of the Year Achievement Award Ceremony. This year, seven Network members were recognized with Sustainable Achievement Awards for demonstrating exemplary performance with sustainability initiatives in 2016 and all 87 Network Members received a 2016 membership plaque. Since 2010, Network members have collectively saved an estimated 11 million kWh and 300,000 therms, the equivalent of removing approximately 2,000 cars from the road for one year.

Throughout 2016, the Port continued to identify, assess, and develop strategies that will assist in reaching the CAP goals. Key mitigation strategies for the CAP include energy efficiency measures on Port tidelands, which account for approximately 20% of the anticipated GHG emissions reductions to be achieved by 2020. Throughout the year, the Port encouraged tenants to conduct energy efficiency upgrades and retrofits, while simultaneously upgrading Port owned facilities. In January 2016, the Port released a RFQ for As-Needed CAP Services. Services under this agreement will cover a range of projects related to management of the CAP and analysis of GHG reduction opportunities and progress to-date. The projects will include, but are not limited to, the following: support for the implementation of the CAP, evaluation and prioritization of CAP measures and

products, and progress reporting to meet CAP targets. Final agreements were approved at the Port's Board Meeting.

in April 2016. In June 2016, Port staff worked with CH2M Hill Engineers, Inc. to create the Port's GHG inventory. This annual report included fuel, electricity, and gas GHG emissions in Scope 1 and Scope 2 categories for Port owned and operated facilities. This inventory does not include any Port tenant operations. The results of the GHG inventory showcased a GHG emission reduction of 2% relative to 2014. One main reason for the reduction in GHG emissions was due to the Port's interior and exterior lighting retrofit projects that were completed.

In September 2016, staff presented the annual Year in Review presentation at the Board meeting. The Year in Review is an annual report of the Port's progress on Green Port Program goals and the implementation of CAP measures.

During 2016, the Port distributed quarterly memos in February, April, July, and October highlighting energy efficiency related trainings and seminar opportunities to various Port departments, including Engineering-Construction, Real Estate Development, General Services, and the Planning and Green Port departments. The quarterly memos served to highlight targeted energy efficiency educational opportunities to relevant departments and engage upper management to encourage staff participation in training opportunities, which led to 34 employees attending trainings that included the following topics: smart buildings, LEED, heating system efficiency, Title 24, Building Operation Certification, and energy efficiency. In June 2016, two Port staff members presented at the Statewide Energy Efficiency Conference in Riverside, California. One staff member presented on the Green Business Network program and how this concept could be applied to other local government agencies. The other staff member, presented on the Sustainable Leasing Program and how other agencies could utilize an incentive program to encourage sustainability projects.

Through collaboration of the SDREP, the Port helped fund energy efficiency community workshops including the hosting community workshops to promote energy efficiency opportunities and services to residents and businesses, including ZNE Webinars,

Benchmarking Coaching, Home Energy Coaching, and San Diego Regional Climate Collaborative (Climate Collaborative) quarterly workshops.

In 2016, the Port continued to serve on the Steering Committee of the Climate Collaborative, a primary initiative for the SDREP. The Climate Collaborative serves as multi-agency regional collaboration intended to raise awareness and understanding of the energy efficiency and climate action planning activities taking place in the San Diego region. The Climate Collaborative also promotes community and decision-maker engagement. Additional information is available online at: www.sdclimatecollaborative.org. For a summary of the SDREP achievements during 2016, refer to the San Diego Regional Energy Partnership Final 2016 Report and the Strategic Plan Menu Update Report for January – December 2016. Port staff continues to attend monthly steering committee meetings to learn from other local government agencies on energy efficiency and climate action planning best practices. Port staff is responsible for reviewing invoices and progress reports for the SDREP, and providing joint oversight of Partnership expense tracking and report preparation.

To advance implementation of the CAP, the Port continues to work on the development of the Sustainable Leasing Program. The Board of Port Commissioners approved the Utility Usage Reporting Ordinance (Ordinance) by unanimous vote, which is one component of the Sustainable Leasing Program. The Ordinance required tenants to report utility usage (energy and water) through the Environmental Protection Agency ENERGY STAR® Portfolio Manager® (Portfolio Manager) online tool. Port staff, with assistance from the San Diego Port Tenants Association (SDPTA), CSE, and Edison Energy, are working closely to implement the Ordinance.

Port staff continues to work on the Sustainable Leasing Program which, through amendment of various current policies and administrative procedures, would establish the framework for economic incentives for the implementation of above-compliance improvements and demonstrated GHG reductions. New leasing provisions are under consideration, including potential requirements for periodic facility assessments and energy audits to promote increased energy efficiency and sustainability measures. Based

on targeted research, staff developed a conceptual Incentive Framework that includes Sustainable Technology Advancement Funding, Lease Negotiated Incentives, and Expedited "Fast Track" Administrative Review. In 2016, SDG&E collaborated with the San Diego Unified Port District ("District") on discussions surrounding the development of an Energy Management Plan ("EMP"), as authorized in Assembly Bill ("AB") 628. These discussions resulted in SDG&E and the District agreeing on areas of focus for a prospective EMP which align with the objectives of AB 628 and help to achieve the goals set forth in the District's 2013 Climate Action Plan. While these discussions are ongoing, SDG&E and the District are working towards the goal of finalizing an EMP in 2017.

5. SDGE3276 LPG – SANDAG Partnership

Program Description:

The SANDAG Energy Roadmap Program is a non-resource LGP program with SDG&E that offers local jurisdictions assistance in making their buildings and processes energy efficient, implementing state energy codes through access to training and workshops, and serving as a conduit to their constituents on programs that help reduce energy bills and positively impact the environment and the community. The program will continue to provide local governments with support that results in reduced greenhouse gas (GHG) emissions and advances energy efficiency. The program will provide free energy assessments for government buildings and online tools to monitor electricity, natural gas, and transportation fuel use (transportation components are funded by SANDAG outside of the LGP contract and funds). The program provides continued access to technical experts that can assist jurisdictions with the necessary processes to implement building improvements, local planning efforts, and community outreach. The Program will continue to help build capacity within the SANDAG member agencies that do not have direct LGPs with SDG&E, as well as coordinate resources from SDG&E's Emerging Cities Program (ECP), and collaborate with the other LGPs in the region. The Energy Roadmap Program is a continuation of a successful LGP that was launched in 2010. This scope of work for the

2016-2020 Rolling Portfolio Cycle builds on the previous cycles' Energy Roadmap Programs.

Implemented Strategies:

Internally, several activities stemmed from the implementation of the SANDAG Green Operations (Ops) Manual, which has been branded "GoGreen@SANDAG".

- GoGreen@SANDAG posted quarterly energy and water efficiency news via YAMMER and intranet site, reaching approximately 350 staff with each posting.
- Launched a "Sustainability Bingo" as a means to engage staff on possible home and office energy efficiency, water conservation, and other sustainability actions via the GoGreen@SANDAG initiative.
- Held a SANDAG employee event that provided a behind the scenes tour of the newly energy-retrofitted library at the Natural History Museum at Balboa Park, as part of GoGreen@SANDAG for 20 employees.
- Hosted a "Go Green@SANDAG" booth at the Annual Employee Wellness Fair at two offices that educated employees on energy and water saving programs and measures.
  - Distributed energy efficiency program information provided by SDG&E, including rechargeable portable power banks, reusable tote bags and notebooks made from recycled paper
  - Conducted a sustainability survey that reached 130 employees; shared home energy program brochures provided by SDG&E.
  - Attendance was estimated at around 60% of staff, or about 200 employees.

In 2016, Energy Roadmap Program presentations and materials were given to SANDAG policy committees, stakeholder groups, and in-person meetings reaching approximately 66 elected officials and 142 municipal staff, all the 19 jurisdictions of San Diego County that comprise SANDAG. All eligible cities have completed Energy Roadmaps and many of them are now being implemented through the Program.

SANDAG supported city development of energy efficiency components of Climate Action Plans (CAPs) and implementation efforts as well as General Plan Updates related to

energy and climate mitigation by leveraging available SANDAG funds via sub-regional efforts and internal sources. It also facilitated some city and regional climate change activities to increase coordination and standardized approaches across governments, agencies, SDG&E, and academia.

SANDAG Continued to support the cities of Solana Beach, Del Mar, El Cajon, and Oceanside through February to complete climate planning activities funded through SDG&E's ECP.

SANDAG also continued to coordinate and facilitate quarterly meetings for a North Coast Energy Action Collaborative, a peer-to-peer effort to support Energy Roadmap implementation by the cities of Carlsbad, Del Mar, Encinitas, Oceanside and Solana Beach.

In conjunction with SDG&E, SANDAG offered community outreach activities to cities through ECP. Events were scheduled in Oceanside and Encinitas for Earth Day in April 2016 and a chamber lunch and learn event in Carlsbad.

Meeting topics included:

- SANDAG's updated Energy Roadmap Program services
- City of Carlsbad's CAP implementation measures
- San Diego Regional Energy Partnership (SDREP)'s Home Energy Coach
- City of Chula Vista CAP/Energy Efficiency "Lessons Learned"
- PACE Program – HERO Reporting walk-through
- Desired marketing/outreach goals for sub-region
- iCommute & Transportation Demand Management strategies
- Ordinance template resources
- Green business programs
- Business-related measures within CAPs

Participated in quarterly meetings for a South Bay Energy Action Collaborative, a peer-to-peer effort coordinated by Chula Vista to support Energy Roadmap implementation by the cities of National City, Coronado, and Imperial Beach.

SANDAG launched the North Inland Cities Energy Collaborative and held two quarterly meetings with the cities of Escondido, Poway, San Marcos, and Vista.

Representatives from planning, community development, and public works departments participated. The peer sharing of similar work efforts was very well received. Meeting topics included:

- Beacon Award Program
- Training and funding opportunities
- Legislative updates
- Climate action planning resources
- SDG&E Core Program updates (e.g., SDG&E's Business Energy Solutions)
- SDREP program updates and available resources (e.g., Home Energy Coach: Employee Program and Green Business Program)

SANDAG also participated in CA Energy Efficiency Coordinating Committee (CAEECC) meetings and subcommittees and served as a member of the Public Sector Subcommittee on behalf of the region.

As a Beacon Award Champion, SANDAG assisted the cities of Del Mar, Encinitas, National City, Oceanside, and Solana Beach with applications to the Beacon Award Program and/or Beacon Spotlight Awards which they received in 2016.

Through SDREP, collaborative efforts continued with other LGPs in the region: Cities of San Diego and Chula Vista, the Port, and the County, including the following:

- Coordinated and facilitated meetings among the five SDG&E LGPs to develop consistent and achievable 2016 LGP oversight and monitoring methods.
- Participated in approximately 12 San Diego Regional Climate Collaborative (SDRCC) Steering Committee meetings and four quarterly networking meetings.
- Coordinated two climate action planning trainings with the SDRCC for local government staff.
- Presented at SDRCC Network meetings on SDREP activities.

The SANDAG Regional Energy Working Group (EWG) held 8 meetings that included several energy efficiency topics, plus one tour. Attendees included elected officials, local government and public agency staff, SDG&E, Center for Sustainable Energy (CSE),

universities, business and environmental groups as well as members of the public. Meeting topics related to energy included:

- Energy Roadmap Program services for 2016-2020, including SDREP, SDRCC, and ECP
- State of Distributed Solar in the San Diego Region (CSE) and SDG&E's Connected to the Sun Program (now known as EcoChoice/EcoShare)
- SDG&E Energy Efficiency Business Plans
- CA Integrated Energy Policy Report (IEPR)
- Energy and Climate Legislation/State Activities
- California Energy Efficiency Coordinating Committee (CAEECC)
- Hydrogen Fueling Stations
- Electric Vehicles and Charging Stations
- Tour of SDG&E's EOC and Meteorology Center
- Cleantech San Diego's Energy Innovation Cluster
- Local Government and Special Jurisdictions CAPs.

6. SDGE3277 LGP – SEEC Partnership

Program Description:

The Statewide Energy Efficiency Collaborative (SEEC) Program is an alliance between three statewide non-profit organizations and California's four IOUs 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 EE and climate action planning, venues for peer-to-peer networking, technical assistance to implement, track and assess the progress of cities and counties, and support and recognition for local agencies participating in the Beacon greenhouse gas emissions and energy efficiency program.

Implemented Strategies:

- The annual SEEC Forum had a total of 320 participants, the highest level of participation since the forum first started in 2010, from 90 unique cities, counties, and regional agencies, representing over 88% of the state's population.
- 23 new participants joined the Beacon Program, totaling 100 cities and counties representing more than 30% of California's population. The Beacon Program recognized a record number of cities and counties with awards including 83 Spotlight Awards and 8 full Beacon Awards.
- 26 new emissions management calculators were developed for the ClearPath software tool. A total of 128 Community and 53 Government Operations inventories were created in 2016 including over 1,000 individual calculations and 83 new US cities are now using ClearPath. ClearPath was selected as the official inventory tool for the Compact of Mayors and now supports one-click reporting of summary data to the Carbon Climate Registry (CCR) reporting platform. In addition, users created 135 business-as-usual forecasts and 29 action plan scenarios in the tool. Collectively users logged over 1,000 hours of use in the tool over 2016.
- The Coordinator shared 731 best practices, funding opportunities, news highlights, events, and resources to over 900 local government staff and other key stakeholders.

Resources Developed

- State of Local Climate Action Plan: presents a comprehensive picture of measurable local emissions trends and targets, planning efforts, and energy and climate actions in the state, along with in-depth profiles of local and regional agencies pursuing goals like public health and economic development through climate action.
- Zero Net Energy Hub for Local Governments: aggregates existing resources on ZNE, highlights key related policies, and provides tangible strategies to advance ZNE efforts through a four-step process: identifying and engaging key

stakeholders; creating a vision; demonstrating leadership; and supporting community efforts.

- Weatherization Guide for Local Governments: highlights the benefits of weatherization and highlights best practices for developing partnerships and programs, demonstrating leadership, and investing in workforce development, as well as key resources.
- 2016 Climate and Energy Legislative Update: highlights key climate- and energy-related bills passed in the 2016 legislative session including AB-197, AB-1550, AB-2722, SB-32, SB-1000, and other important bills.
- The SEEC Calendar featured 340 webinars, public workshops, conferences, and other climate- and energy-related events in 2016, providing a single place for local government staff to learn about important events.
- CURRENTS: a quarterly energy newsletter developed by the Coordinator, featured articles on 27 timely and relevant topics including:
  - Unpacking the Paris Agreement: Implications and Inspiration for Local Governments
  - Preparing for the 2016 Building Energy Efficiency Standards (Title 24 Part 6)
  - How to Best Use Innovative Technologies to Head Towards ZNE
  - High Performance Leases Offer a Solution to the Split Incentive Energy Challenge
  - Emergent Trends for Local Governments in 2017

Technical Assistance Provided

- SEEC conducted a demonstration project in the Gateway Cities region to help the region capitalize on the growing interest in sustainable development among local officials, businesses and community leaders in the region. Throughout 2016, SEEC partners and the Coordinator:
  - Organized two Cap-and-Trade workshops that each attracted nearly100 local officials and staff;

- Recruited additional cities to join the Beacon Program – currently, the cities of South Gate, Whittier, Downey, and Norwalk are Beacon participants;
- Briefed Coalition of Governments (COG) staff and consultants on greenhouse gas emissions analysis and the role that it plays in developing competitive grants for Cap-and-Trade programs in the state's Greenhouse Gas Reduction Fund;
- Forged a partnership among the COG, the City of Norwalk, and the Energy Leaders program administered by Edison and SoCalGas to secure a CivicSpark fellow to work with Gateway Cities jurisdictions on energy efficiency and climate action planning; and
- Collaborated with the COG to organize a Climate Planning Tools workshop.

- SEEC partners and the Coordinator also worked with the County of San Mateo to support their ZNE efforts. After numerous targeted calls to learn about the County's resource and technical assistance needs, SEEC developed the online ZNE Hub to create a 'one-stop-shop' for ZNE resources to streamline resource access and research efforts.
- The Coordinator conducted over 77 one-on-one calls and meetings with local government staff to provide technical assistance and resource connections.

7. SDGE3278 LPG – Emerging Cities Partnership

Program Description:

The Emerging Cities Program (ECP) is part of the Local Government Partnership umbrella and is intended to provide local governments additional resources to support and build capacity in engaging in energy efficiency activities that achieve deep, comprehensive energy savings. ECP collaborates with SANDAG's Energy Roadmap Program to provide energy assistance to public entities with energy and sustainability projects and community outreach. Additionally, ECP funds activities supporting municipal codes and standards, education and outreach, implementation of Climate Action Plans (CAP) and Energy Action Plans (EAP), GHG reduction plans and other sustainable projects. ECP works directly with

city staff in an effort to reach their council, small-to-medium size business owners, and residents.

Implemented Strategies:

- Regularly coordinated with SANDAG to strengthen the Emerging Cities Program and to engage new participants. ECP participants focused on implementing the energy efficiency portions of their Energy Roadmap.
- Contributed to Energy Action Collaboratives with SANDAG:
  a. North Coast Energy Action Collaborative (NCEAC), which consists of Del Mar, Solana Beach, Encinitas, Carlsbad, and Oceanside.
  b. South Bay Energy Action Collaborative (SoBEAC), which consists of Chula Vista, Imperial Beach, National City, and Coronado.
  c. Inland Cities Collaborative which consists of the cities of Poway, San Marcos, Vista, and Escondido.
- Leveraged the Locational Energy Efficiency Program to help promote energy efficiency and demand reduction in the Oceanside area.
- Provided resources at the following workshops:
  a. Solana Beach Climate Action Plan workshop
  b. Oceanside Lunch and Learn regarding Locational Energy Efficiency Programs
- Finalized energy portion of Del Mar's Climate Action Plan with the help of contractor.
- Contracted vendor to complete energy efficiency ordinance for the City of Carlsbad.
- Placed ads in quarterly publications with Oceanside and San Clemente to promote SDG&E's core programs.

H. Statewide Emerging Technologies Programs

Program Description

The statewide Emerging Technologies Program (ETP) supports the California Investor Owned Utility (CA IOU) energy efficiency programs in their achievements of aggressive objectives through three subprograms. The Technology Assessments Subprogram supports the CA IOU energy efficiency programs by identifying and assessing the performance of emerging energy efficiency technologies and solutions that may be offered to customers with an incentive. The Technology Development Support Subprogram supports efforts to increase technology supply by educating technology developers on technical and programmatic requirements for energy efficiency measures. The Technology Introduction Support (TIS) Subprogram supports efforts to introduce technologies to the market by exposing end-users to applications of emerging technologies in real-world settings, and by using third party implementers to deploy technologies on a limited scale in the market.

ETP uses multiple tactics to achieve the objectives of its three subprograms. Some of the key tactics are described below, but each tactic may be used to achieve any of the subprogram objectives, and this list is not exhaustive.

1. SDGE3246 SW-ET – Technology Introduction Support

Program Description:

The TIS Subprogram supports the market introduction of new technologies to the market on a limited scale by implementing Scaled Field Placements (SFP), Demonstration Showcases (DS), market studies, and Technology Resource Innovation Program (TRIP) projects. SFP projects consist of placing a measure at several customer sites with the intent of gaining market traction and feedback. Typically, these measures have already undergone an assessment or similar evaluation, reducing the risk of failure. DS projects are designed to provide key stakeholders the opportunity to "kick the tires" on combinations of measures that advance California Long Term Energy Efficiency Strategic Plan (CLTEESP) and ZNE goals. DS introduces measures to stakeholders at a system level, in real-world

settings, creating broad public and technical community exposure and increased market knowledge. DS are open to the stakeholders and highlight a system's approach that can be applicable across the service territory. Market 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, customer acceptance of new measures, and market readiness and potential for new measures. TRIP solicits third party projects (of up to $300,000) to deploy emerging technologies on a limited scale to the market; these projects are often in collaboration with the utility's energy efficiency programs.

Implemented Strategies:

- Scanned, screened, and prioritized TIS project ideas in coordination with energy efficiency programs.
- Completed one TRIP solicitation.
- Presented at conferences to promote project exposure, stakeholder awareness, and public information dissemination.
- Performed primary and/or secondary research to gain market insight on technologies.
- Coordinated with the statewide ETCC stakeholders.

2. SDGE3247 SW-ET – Technology Assessment Support

Program Description:

Through the Technology Assessment (TA) element of ETP, energy efficient measures that are new to the market (or underutilized for a given application) are evaluated for performance claims and overall effectiveness in reducing energy consumption and peak demand. A key objective of these assessments is the adoption of new measures into SDG&E's portfolio. Historically, TA is one of the core strengths of ETP and provides critical support to energy efficiency programs. ET assessments may utilize data/information from different sources including: in situ testing (customer or other field sites), laboratory testing, or paper studies may be used to support assessment findings. In

addition to other findings and/or information, assessments typically would generate the data necessary for energy efficiency rebate programs to construct a work paper estimating energy and demand savings over the life of the measure.

Implemented Strategies:

- Collaborated with IOU and non-IOU partners and scanned a wide variety of sources for assessment candidates.
- Identified, screened, and prioritized technologies or strategies for TA.
- Produced reports describing TA results, conclusions, and recommendations.
- Actively engaged the energy efficiency program and other program stakeholders
- Transferred TA results to energy efficiency program stakeholders and California Technical Forum (CalTF), with technology measures successfully transferring to deemed rebates as well as custom incentive measures.
- Supported measure development and measure revision processes for internal IDSM resource acquisition efforts.
- Coordinated assessments and shared technology information through the four quarterly meetings of the Emerging Technologies Coordinating Council (ETCC) on topics of Commercial Buildings, Agricultural, Residential, .and Data Centers.
- Supported market ready technologies with an ET Forum focused on agricultural technology
- Met with ETCC Advisory Council twice in person as well as multiple times over webinars to gain insight from national experts in the field.

3. SDGE3248 SW-ET – Technology Development Support

Program Description:

Technology Development Support (TDS) Subprogram aids private industry in the development or improvement of technologies. Although product development is the domain of private industry, there are opportunities for IOUs to undertake targeted, cost effective activities that provide value in support of private industry product development efforts. This support decreases innovator uncertainties and allows the IOUs to have input in

the process. ETP looks for targeted opportunities to support energy efficiency product development. Product development is the process of taking an early-stage technology, or concept, and transforming it into a marketable product. ETP uses several activities to support technology developers, including Technology Resource Innovation Outreach (TRIO) roundtables and symposia. TRIO symposia are intended to educate technology developers on the requirements that IOUs must apply to considering new technologies for inclusion in IOU programs. TRIO roundtables are targeted to a smaller audience and have focused on cost effectiveness, Energy Management Systems, and ET Assessments. TRIO provides support and networking for energy efficiency and demand response entrepreneurs, investors, research institutions and universities with the goal of providing participants the necessary perspective and tools to work with IOUs and ultimately introduce new energy efficiency measures to the marketplace.

Implemented Strategies:

- Collaborated with industry directly and through partners, such as the Consortium for Energy Efficiency (CEE), Western Cooling Efficiency Center (WCEC), and the California Lighting Technology Center (CLTC), to provide targeted support for technology development.
- Collaborated with and educated innovators from universities and other research institutions.
- Collaborated with the ETCC and IOUs on various activities. Continued on-going business relationships with investors who were interested in funding cost effective, energy efficiency technologies.
- Hosted TRIO symposium and TRIO roundtable with ETCC.
- Supported early stage companies through an ET Forum coordinated with the Rocket Fund, and Department of Energy's (DOE) FLoW (First Look of the West) business plan competition event, which provide seed funding to help start-ups develop products addressing direct utility needs.

- Held a meeting with the California Energy Commission (CEC) Electric Program Investment Charge (EPIC) and Public Interest Energy Research (PIER) programs to focus on collaboration and research alignment with ETP.

I. Statewide Finance Program

1. SDGE3262 SW-FIN – On-Bill Finance

Program Description:

On-Bill Financing (OBF) is an interest-free, unsecured finance offering designed to facilitate the purchase and installation of comprehensive, qualified energy efficiency measures for non-residential customers who might not otherwise be able to act given capital constraints and/or administrative and time burdens. Approved customers who install comprehensive projects are eligible to receive a full rebate or incentive from the participating SDG&E programs and to finance the balance of comprehensive, qualified energy efficiency and demand response measures. Customer loans are repaid through a fixed monthly installment on their utility bills.

Implemented Strategies:

OBF continues to provide monthly Trade Professional training on the OBF process and requirements. The OBF trainings offer a two-way open communication channel between Trade professionals and OBF.

OBF also continues to coordinate with assigned account executives, Partnership Programs and Third Party Programs to allow financing of approved measures and projects. Staff works closely with assigned accounts by providing outreach and participating in seminars, tradeshows, quarterly meetings and special projects. Financing programs also allow SDG&E to provide the best possible experience for its energy efficiency customers. SDG&E continued its On-Bill Financing Program in 2016, and has funded nearly 1500 loans totaling over $51 million as of year-end 2016, enabling businesses, local governments, and institutional customers to pursue increasing levels of energy efficiency.

J. Statewide Codes and Standards Program

Program Description:

The Statewide Codes and Standards (C&S) Program saves energy on behalf of ratepayers by influencing standards and code-setting bodies, such as the CEC and the DOE, to strengthen energy efficiency regulations by improving compliance with existing C&S, assisting local governments to develop ordinances that exceed statewide minimum requirements, and coordinating with other programs and entities to support the State's ambitious policy goals. C&S Program advocacy and compliance improvement activities extend to virtually all buildings and potentially all appliances sold in California.

Throughout 2016, PG&E, SCE, SoCalGas, and SDG&E collaborated with the CEC to initiate over 20 new Codes and Standards Enhancement (CASE) proposals for the 2019 Title 24, Part 6 rulemaking and assisted the CEC with related infrastructure and resource development for 2019, preparing for 2016 Standards implementation, and participated in ASHRAE 90.1 and 189.1 Standards technical committees or working groups to update requirements on six topics.

The Compliance Improvement Subprogram delivered 244 Title 24, Part 6 standards-related traditional classroom training sessions, 20 virtual classes, facilitated 20 Decoding Talks and updated all on-line self-study courses to reflect the changes and additions to the Standards. The Energy Code Ace tools and resources were updated for the 2016 Standards, in addition to launching a new Application Guide series. In close collaboration with the CEC, the statewide C&S Compliance Improvement team developed dynamic compliance resources and checklists, and supported the development of dynamic forms that are expected to be released in 2017. The Compliance Improvement team also developed or updated 12 On-Demand Videos in support of the CEC's Modernized Appliance Efficiency Database System (MAEDBS), seven fact sheets, and a Water-Energy Nexus online self-study course.

The C&S Program team continued to support expansion of the Reach Code Subprogram which is in a growth cycle driven by the new 2016 Title 24 standards and the increased focus by local governments on climate action plans. The statewide team is

coordinating with the CEC to provide the technical analysis needed to support local jurisdictions adopting local energy ordinances.

Implemented Strategies:

Support for state and federal building codes and appliances standards continues to move California towards residential ZNE by 2020, non-residential ZNE by 2030, and the statewide goal set forth by SB 350 to double energy efficiency.

Compliance improvement activities have contributed to Title 24, Part 6 compliance adjustment factors[3] that exceed 100 percent, and compliance rates for appliance standards between 80 and 90 percent.

Building efficiency and appliance standard advocacy efforts, and higher than expected compliance rates, have resulted in a significant energy savings attributable to the C&S Program. Net C&S savings are approximately half of total net energy efficiency portfolio savings.

Increased scrutiny on the Codes & Standards Enhancement (CASE) studies has required additional data collection. Field studies, product testing, and other primary research have resulted in stronger CASE studies and more stringent standards.

Increasing scrutiny by stakeholders to CEC and DOE rulemakings continues to compel increasing rigor to achieve success. The additional rigor is achieved by increasing research (lab testing, field surveys, etc.) which increases costs. The complexity of building codes and the number of appliance standards continues to increase. DOE standards for new product categories continued to increase preemption of state appliance standards and constrain prescriptive baselines for building codes, thereby limiting opportunities for California to require increased cost effective savings.

The audience requiring Title 24, Part 6 training has increased in scope and now includes architects and designers, commissioning agents and acceptance test technicians, electric distribution inspectors. Increased training modules are required to serve this expanded user group.

[3] Compliance adjustment factors account for buildings that exceed minimum code requirements on a whole building basis.

There are several opportunities to increase savings from state and federal building codes and appliance standards; one of them being continued expansion of primary research to ground proposals using data. In addition to further expansion of Title 24, Part 6 education and training, significant energy savings may be achieved by expanding support for increasing compliance with the appliance standards. Looking ahead, code simplification and efficiency improvement of existing buildings will be increasingly important.

New reach codes will be developed based on 2016 building codes now that software has stabilized. Continuing to collaborate with the Compliance Improvement team to recruit and involve a diverse cross-section of market actors to contribute during the initial advocacy stage of the Building Energy Efficiency Standards rulemaking process will result in improved compliance rates and smoother implementation.

1. SDGE3249 SW-C&S – Building Codes & Compliance Advocacy

Program Description:

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 CEC 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 that are referenced in Title 24 (e.g., the National Fenestration Rating Council, and the Cool Roof Rating Council). These efforts support the statewide goals outlined in the Clean Energy & Pollution Reduction Act (SB 350) to increase building efficiency by 50 percent as well support the pursuit of ZNE objectives included in the Energy Efficiency Strategic Plan.

Implemented Strategies:

Initial work preparing for the 2019 Title 24, Part 6 standards development began in 2016. The C&S team scheduled and held stakeholder meetings in September, October and

December of 2016 to inform and engage stakeholders, gather input and refine the measure list and specifications. The meetings covered approximately 24 code change proposals in nine categories:

- Advanced Daylighting Design
- Demand Response
- Laboratory Measures
- Non-Residential HVAC
- Non-Residential Lighting
- Residential Envelope
- Residential HVAC and Residential
- Non-Residential Indoor Air Quality
- Residential Water Heating
- Warehouse Topics

The current status of the CASE measure development includes:

- Working with stakeholders to gather information that will inform code change proposals, market analysis, and cost effectiveness analyses
- Developing market and cost effectiveness analyses
- Preparing the first drafts of the CASE Reports for CEC review
- Collaborating with the Compliance Improvement team to identify and address compliance and enforcement implications of proposed code changes

In addition to CASE development, the C&S team provided technical support to the CEC in the following ways:

- Development of an energy calculation spreadsheet for screening energy savings estimates
- Development of Time Dependent Valuation (TDV) demand factors spreadsheet for calculating generation peak demand
- Development of Outdoor Lighting and Indoor Lighting energy savings spreadsheets that include TDV, peak demand and PV cost savings
- Guidance and support on cost effectiveness study of different definitions of ZNE

(regulated loads, regulated + white goods, total, etc.)

- Drawing participants together from IAQ standard development for LEED, ASHRAE 62.1 and the Building Energy Efficiency Standards to allow use of Title 24, Part 6 IAQ standard for compliance with other standards.

2. SDGE3250 SW-C&S – Appliance Standards Advocacy

Program Description:

The Appliance Standards Advocacy Subprogram targets both state and federal standards and test methods including improvements to Title 20 Appliance Efficiency Regulations by the CEC, and improvements to Federal appliance regulations and specifications by the DOE, Environmental Protection Agency (EPA) ENERGY STAR® and ASHRAE, and the Federal Trade Commission (FTC). Advocacy activities include developing Title 20 code enhancement proposals, participating in the CEC public rulemaking process, participation in ASHRAE committees, submitting comment letters based on IOU research and analysis in federal standards proceedings, and participating in direct negotiations with industry. Additionally, the program monitors state and federal legislation and intervenes, as appropriate.

Implemented Strategies:

The C&S program advocated for changes to Title 20 Appliance Efficiency Regulations. Activities included participation in several CEC webinars and workshops regarding LEDs, small-diameter directional lamps, computes, displays, portable spas and pool pumps rulemakings. The program developed CASE studies for the CEC on products including consumer electronics, EISA exempt lamps, sprinkler spray bodies, commercial clothes dryers, televisions computers and displays, and completed laboratory testing for commercial clothes dryers with results submitted as part of the CASE studies.

Additionally, C&S advocated for changes to federal appliance standards. Activities included:

- Researched and responded to specific issues related to federal rulemaking and specification processes conducted by the DOE, EPA ENERGY STAR®, and the FTC.
- Participated in several stakeholder meetings during rulemakings and specifications process, resulting in 30 rulemaking advocacy letters issued in 2016. The results of these efforts will be determined in future years. 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 working groups with DOE, industry, and other stakeholders.

3. SDGE3251 SW-C&S – Compliance Enhancement

Program Description:

Following adoption, C&S supports compliance improvement with both the Building Energy Efficiency Standards and the Appliance Standards. Compliance improvement activities complement advocacy work by maximizing verified savings from C&S 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 the 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.

Implemented Strategies:

- Title 24, Part 6 Building Energy Standards Compliance Improvement

The Compliance Improvement team updated existing training assets (classes, tools, resources, etc.) and created new 2016 Title 24, Part 6 training courses designed to support

market actors across the compliance industry. Training is offered in several modalities including traditional classroom sessions (at training centers and other locations as requested), virtual classroom sessions (live, online classes, also known as v-classes), webinars and online self-study, allowing users to take the course at their convenience. The Title 24, Part 6 Decoding Webinar and Title 20 On-Demand Video courses are recorded and available on the Energy Code Ace website. In addition, five 2013 Title 24, Part 6 online self-study courses, which required minor maintenance in 2016, will remain available through the end of 2017.

The Compliance Improvement team developed courses for all modalities offered, including updating existing courses designed for 2013 standards and creating new courses on the 2016 standards.

Training was delivered via classroom sessions, decoding webinars, v-classes, online self-study courses and virtual workshops. The accomplishments from each type of training are described below.

The Title 24 Compliance Improvement team:

- conducted 244 classroom (in-person) training sessions with approximately 4,800 attendees.
- conducted decoding webinars covering five topics related to the 2016 Standards update. Each webinar was offered in four separate sessions, resulting in completion of 20 decoding webinars with a total of 659 attendees.
- updated five virtual classroom (v-class) courses to reflect changes in the 2016 standards. Virtual classes are modified versions of the traditional Standards Essentials suite of classroom courses targeting energy consultants. The Title 24 Compliance Improvement team conducted 20 v-classes with a total of 441 attendees. Each class was held over a three-day period.
- offered online self-study courses.

Over all courses, there appears to be a trend toward a greater knowledge swing based on results from 2015-2016. The number of users decreased in 2016, likely the result of many people postponing training until the new 2016 training materials became available

later in the year and/or the effective date for the new code.

The Title 24 Compliance Improvement team began development of two virtual workshops: Residential Modeling Tips and Analyzing the Code of Federal Regulation (CF1R): A Conceptual Overview.

These virtual workshops are being developed partly in response to the California Association of Building Energy Consultants (CABEC) Certified Energy Analyst (CEA) certification test results.

During 2016, the C&S team in collaboration with CABEC, commenced a project to thoroughly update the 2013 Certified Energy Analyst Residential and Non-Residential certification exams from the 2013 to the 2016 Energy Code. At the end of 2016, this update project was close to being complete, with most exam questions complete, and exams scheduled. The project also included development of a user guide to help facilitate the writing of future exams. This project is scheduled to be complete in the first half of 2017.

The Title 24 Compliance Improvement team also updated the existing Energy Code Ace fact and triggers sheets for the 2016 standards, and developed seven new Application Guides.

The team continued outreach via Energy Code Ace by participating in industry events, distributing 70 targeted messages, and updating EnergyCodeAce.com. Specific activities and outcomes include the following:

- Participated in 36 industry outreach events in 2016 (including exhibiting, presenting, sponsoring and distributing materials collateral at the 2016 American Council for an Energy-Efficient Economy (ACEEE) conference in California).
- Built / strengthened strategic partnerships with organizations such as the CEC, CABEC, American Institute of Architects, California Council (AIACC)and local chapters), Institute of Heating and Air Conditioning Industries (IHACI), California Building Officials (CALBO), International Code Council (ICC) Chapters, Statewide Energy Efficiency Collaborative (SEEC).

The Energy Code Ace team updated all four of the “Ace” tools for the 2016 Standards. The tools, listed below, are designed to facilitate compliance by addressing known barriers in the industry. The updated Ace tools are:

- Reference Ace - The Reference Ace™ tool helps users navigate the Title 24, Part 6 Standards documents.
- Forms Ace - The Forms Ace™ tool is designed to help determine which Title 24, Part 6 Forms are applicable to a specific project.
- Navigator Ace - The Navigator Ace™ tool provides a step-by-step guide to the Title 24, Part 6 compliance process.
- Installation Ace - The Installation Ace is a "field guide" to assist in identifying proper installation techniques and provides visual aids for some components commonly installed incorrectly.

The Title 24 Compliance Improvement team is coordinating with the Building Advocacy program to strengthen the process by which market actors contribute input to the codes and standards improvement process and minimize compliance issues created by the Standards language itself. Coordination includes webinar collaborations discussing code users and compliance tasks, CASE topic reviews, and collaboration in stakeholder meetings. Integration will continue during 2017.

The Compliance Improvement team is updating CEA residential and non-residential examinations for 2016 standards. As part of this effort, the team revisited and updated the exam blueprint, criteria, and candidate skill set descriptions.

- Title 20 Appliance Standards Compliance Improvement

The Compliance Improvement team completed the following activities in 2016, which was the first full year of the Title 20 compliance support activities:

  - Coordinated with the CEC to refine and finalize a 2016 outreach plan.
  - Launched twelve Energy Code Ace on-demand video modules organized under the six topics to support Title 20 compliance improvement.
  - Developed a 60-minute online self-study course on the Water-Energy Nexus, which is available through the Energy Code Ace website.

- Hosted and recorded "Test, Certify and Comply," an online event focusing on the high efficacy residential lighting requirements in Title 24, Part 6 Joint Appendix 8. This topic crosses over between Title 20 and Title 24, Part 6.

The Compliance Improvement team developed the following Title 20-related resources:

- Fact sheets documenting requirements for the equipment and Title 20 certification processes.
- Added Title 20 Appliance Standards document to 2016 Reference Ace tool to allow users to easily reference performance requirements to ensure specified equipment is compliant with the standards.

In 2016, the Compliance Improvement team completed the following outreach activities related to Title 20:

- Examined methods to begin outreach regarding appliance certification at time of adoption.
- Developed outreach plans for plumbing fixtures and fittings and for residential lighting products.
- Initiated relationships for potential future collaboration with local water utilities, California Building Standards Commission and the California Department of Housing & Community Development.
- In collaboration with CEC, initiated monthly analysis of Title 20 hotline calls to determine and verify if resources were addressing market needs.
- Provided Title 20 outreach at conferences and events attended by Energy Code Ace.
- Collaborated with the Advocacy team to prepare for new rulemakings or support recent adoptions.
- Worked with the CEC to develop the Voluntary California Quality Light-Emitting Diode (LED) Lamp Specification 3.0, and to align with Title 20, Title 24, and voluntary program requirements.
- Continued work for 2017 that started in 2016, which includes preparing

for the effective date of LED replacement lamp standards (A-lamps, small diameter, portable luminaires) and conducting assessment for small battery chargers (SBCS) via interviews with retailers, importers and manufacturers.

4. SDGE3252 SW-C&S – Reach Codes

Program Description:

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 support for local governments includes research and analysis for establishing performance levels and cost effectiveness relative to Title 24 by Climate Zone, drafting model ordinance templates for regional consistency, and assistance for completing and expediting the application process required for approval by the CEC. The subprogram also supports local governments that seek to establish residential or commercial energy conservation ordinances for existing buildings.

The program monitors and/or participates in a wide range of activities or proceedings that have direct or indirect impacts on California regulations including, but not limited to ASHRAE, international activities involving Europe, Asia, Canada, and Australia, voluntary standards such as green building codes, and ratings organizations such as the Cool Roof Rating Council, National Fenestration Rating Council, Collaborative for High Performance Schools, and the United States Green Building Council. Additionally, the program interacts with ENERGY STAR® and other voluntary activities to shape future regulations or support coordination with voluntary programs.

Implemented Strategies:

The C&S Reach Codes program worked with local jurisdictions to pave the way for adoption of codes which exceed 2016 Title 24 as part of the three-year cycle of local jurisdiction adoption of California Uniform Codes.

The Reach Codes program created several technical resources for local jurisdiction

use, including the following:

- Non-Residential Outdoor Lighting Cost Effectiveness Study
- Cool Roof Cost Effectiveness Study
- Plug-In Electric Vehicles Infrastructure
- 2016 CALGreen Cost Effectiveness Study for Low-Rise Residential New Construction

City of Davis will soon be establishing the Valley Clean Energy Alliance. Davis requested that the Reach Codes team run a study using an escalation rate for utility costs (over and above the inflation rate), and to increase the excess generation buyback rate to equal the retail rate.

The team revised a study to examine the cost effectiveness of an all-electric design versus gas/electric. The all-electric option, because there is no PV system oversizing, is cost effective in all climate zones. However, because the minimum efficiency requirement for heat pump water heaters is far less than a typical system, the compliance calculation significantly penalizes standard efficiency systems. The all-electric scenario includes a high efficiency heat pump water heater to produce compliant models. Thus it may not be used to require all-electric design, but does document that there are cost effective options.

The Reach Code program consulted with CEC staff on proposed solar ordinance features and recommended requiring a "reach" level of energy efficiency beyond the minimum code to ensure the loading order is maintained and to encourage achieving all feasible savings. The CEC ultimately proposed requiring applicants to meet the minimum code requirement without using the PV compliance credit, and then install PV system. Developed cost effectiveness study and methodology for determining minimum PV system size (without oversizing). Provided recommendations on ordinance language. Investigating options to implement software revisions to facilitate implementation.

The program also analyzed the feasibility of requiring residential new construction to meet the Title 24, Part 11 definition of ZNE (achieve an Energy Design Rating, or EDR = 0). Analysis is underway to expand the study to all climate zones with an estimated completion in early 2017.

5. SDGE3253 SW-C&S – Planning Coordination

Program Description:

The Planning and Coordination Subprogram works with the CEC, CPUC, ETP, WE&T, rebate and other voluntary programs, to conduct strategic planning in support of the Strategic Plan policy goals, including ZNE goals for new construction. As part of the expanded outreach and communications efforts, the C&S Program maintains a C&S collaborative, and continues to facilitate the statewide Compliance Improvement Advisory Group. In addition, the C&S Program maintains regular contact with state and federal code-setting agencies to minimize duplication of efforts and coordinate activities.

The Planning and Coordination Subprogram is a non-resource subprogram that seeks to enhance SDG&E's efforts to achieve state policy goals by implementing project level activities that enhance C&S advocacy and increase market feasibility of the subprogram measures through targeted data collection, customer inducements, and knowledge transfer to builders and other market actors. This approach maximizes program agility and, consequently, responsiveness to CPUC and CEC objectives. Code Readiness activities target strategic opportunities that are complementary to ET and other programs in the SDG&E portfolio; for example, measures for which there is limited time to increase code readiness through voluntary programs, low volume measures that may be important for a specific goal, and activities or measures that have a Total Resource Cost (TRC) benefit/cost ratio much less than 1.0.

Implemented Strategies:

SDG&E conducted tactical planning in support of the CPUC's residential ZNE policy goal. Activities included development of a draft plan, review by CPUC and CEC staff, and revisions to the draft plan based on these inputs. Furthermore, SDG&E developed a standing statewide cross-functional conference call to improve coordination and communication with other groups within the IOU energy efficiency portfolio. SDG&E also collaborated with the WE&T statewide team on training calendar offerings for building industry community and training for community colleges on 2013 Title 24 code requirements.

K. Statewide Integrated Demand Side Management

1. SDGE3260 Local-IDSM-ME&O – Local Marketing (EE)

Program Description:

SDG&E's 2016 Integrated Demand Side Management (IDSM) Marketing, Education and Outreach (ME&O) efforts continued to focus on the benefits of comprehensive demand side programs for residential and small-medium business (SMB) customers.

The ongoing objective of local ME&O efforts was to funnel customers from awareness of SDG&E's broad portfolio of IDSM programs, to interest in learning more, and ultimately to participation in relevant programs that best meet their needs. This was accomplished by promoting the increased impact that an integrated approach can have overall, with segmented offers to increase interest in specific, comprehensive programs across SDG&E's energy efficiency, low-income, and demand response portfolio.

SDG&E developed ME&O strategies, messages and materials that increased customer exposure to, and understanding of, demand-side programs and provided on-going education through a variety of channels to meet customers where they are and provide high value solutions for their specific needs.

Local IDSM ME&O activities supported awareness, interest, and participation goals primarily through the following two strategies:

- Direct outreach and customer engagement complemented by partnerships with key third party organizations
- Broad awareness campaigns supported by targeted ME&O efforts

Implemented Strategies:

In 2016, SDG&E's Residential Outreach team participated in more than 1,400 community activities, including events, presentations, and workshops that promoted holistic solutions to customers. The goal was to offer a variety of comprehensive energy-saving solutions by presenting energy efficiency, demand response and/or distributed generation programs in combination, rather than only offering single solutions, one at a time.

Outreach efforts often centered around recurring key initiatives, such as the SDG&E Branch Office Tailgate series, local home improvement shows, safety and emergency preparedness events, health and wellness fairs, multicultural community events, earth fairs at major employer work sites, community sustainability events, and programming at libraries and Cool Zone sites.

One of the most effective ways SDG&E educated residential customers about energy-saving solutions was through partnerships with community-based organizations (CBOs). The organizations that make up SDG&E's Energy Solutions Partner network are diverse and reach a wide variety of customers in unique and engaging ways.

Energy Solutions Partner Highlight

A 2016 partnership with Media Arts Center San Diego (MACSD) included preparation and support of their fall festival. MACSD launched a youth energy conservation Public Service Announcement (PSA) contest for kids (ages 9-19) asking them to share what energy conservation meant to them and what they do at home to save energy. The contest was promoted to schools and local organizations through online/social channels, which resulted in more than 70 submissions. Submissions included a wide-variety of energy-saving ideas and featured many SDG&E programs in energy efficiency, demand response and distributed energy. The top three winners had their winning PSA shown before each film at the festival. This is just one example of how SDG&E is working at the grass-roots level to engage local constituencies in IDSM solutions.

Business Marketing & Outreach

SDG&E's Business Outreach team worked closely with SDG&E's Small-Medium Business (SMB) team early in the year to promote comprehensive IDSM solutions to customers who were experiencing higher bills on their new time-of-use (TOU) rates. Events were held at targeted trade associations, chambers, and local government partners encouraging participation in SDG&E's IDSM programs. Collaboration packages were developed with content that included sample tweets, Facebook posts, e-newsletter and website articles, SDG&E's Trade Professional Directory, pricing and billing plans, rebates, incentives, and energy spending alerts. The Business Outreach team also gave

presentations on IDSM programs, pricing and billing plans for trade associations and assigned customers, as requested.

The Major Customer Advisory Panel (MCAP) provided quarterly updates on topics such as regulatory, rates, and programs, including IDSM. SDG&E's 2016 Energy Showcase Expo was held at the San Diego Convention Center where customers were honored for achievements in energy efficiency, demand response and sustainable energy projects. 2016 was also the first year that the Energy Showcase honored small-medium businesses for their energy-efficiency efforts. A highlight of the Energy Showcase Expo was the Energy Solution Center where customers were provided additional assistance with questions regarding their account, demand side programs, and other services, such as signing up for event notifications for TOU customers. Business seminars included organized industries such as health care, and included discussions on energy efficiency and demand response programs. Trade associations, in collaboration with the Business Outreach team, planned meetings and events at the Energy Innovation Center promoting various SDG&E demand side programs.

Partner Organization Spotlight

The Balboa Park Cultural Partnership (BPCP) protects Balboa Park's natural, cultural and historical resources while improving the economic viability of one of San Diego's oldest public spaces. BPCP leverages a diverse array of partners, including SDG&E, to achieve the core objectives of advancing Sustainability in Literacy, Practice, and Leadership. SDG&E supported BPCP efforts in 2016 with IDSM ME&O funding, to expand exposure of energy efficiency, demand response, distributed generation, clean technology, electric vehicles, and electric/water conservation. Continuing their momentum as the 2015 SDG&E Energy Showcase Champion, BPCP continued to be an exemplary representative of IDSM in action and expanded their efforts in 2016, to increase overall awareness among visitors and continue to make comprehensive upgrades to park facilities.

2016 BPCP highlights included:

- Educated more than 2,000 visitors and staff on IDSM topics

- Developed relationships with more than 75 active partner organizations to increase their impact on the community and get IDSM or sustainability projects done in the park
- Solicited nine BPCP members to sign the Green Museums Accord, a national movement to create sustainable museums
- Completed process of one new construction building becoming LEED Certified
- Worked with the Museum of Man to increase its LEED standing to Gold by offsetting 100% of its building's energy-related carbon footprint (electric and gas)
- Published and distributed Green Impact Guides to all BPCP members

Awareness Campaigns and Targeted ME&O

SDG&E's integrated energy solutions campaign for SMB customers "Energy4Biz" provided information regarding online tools to help them manage their energy use, information on signing up for alerts on demand response event days, audits, financing and more. The solutions campaign included messaging to SMB customers with information about comprehensive IDSM tools and solutions to help them manage their energy costs. Tactics used included English and Spanish TV spots, digital advertising (pre-roll video and banner ads), radio traffic IDs, collateral, direct marketing and social media.

Digital: The Energy4Biz digital banner campaigns included information on the Programmable Communicating Thermostats (PCTs) and were credited with helping the program exceed their 2016 goals. Energy4Biz also included a "ways to save" banner campaign that included all energy efficiency solutions and targeted customers by industry

Collateral: SDG&E produced a marketing piece (bi-fold) for trade professionals, account executives and field representatives to hand out to customers which took a customer through a four step process:

1. Audits (Comprehensive Audits Program and Business Energy Solutions)
2. Develop an action plan (using On Bill Financing)
3. Find a trade professional
4. Continue saving with demand response program

Energy Update: Produced four "newsletter" style bill inserts that informed customers about events, energy-efficiency, demand response, testimonials, rate reform and more.

Website: In 2016, SDG&E implemented a new marketing automation tool on the sdge.com website called Lift. The tool harnesses the power of content distribution and customer data to deliver a more personalized experience on sdge.com. SDG&E is now able to track a customer's navigation on the website and make assumptions about what type of customer they are. For example, a customer who seeks out energy-efficiency information may get tailored content about demand response in a subsequent visit or through ongoing electronic communications. Every time a customer visited sdge.com, SDG&E learned more information about them that it added to their profile. As a result, SDG&E could provide more relevant information to the customer. In fact, within the short time that it's been operational, SDG&E learned that by providing personalized content through Lift, the customer is more than five times more likely to click on a call to action (CTA) than with the normal website experience.

Welcome Letter: The SDG&E welcome experience was revised in 2016 to improve new customer interactions with the company within the first 30 days. The welcome letter content was revised and expanded to highlight household energy consumption and cross-promote customer programs (such as energy efficiency and demand response). SDG&E will launch the new and improved welcome letter to its customers in 2017.

2. SDGE3261 Local-IDSM-ME&O – Behavioral Programs (EE)

Program Description:

The purpose of this program is to increase customer awareness of their energy use and motivate them to take actions, which can include usage-based or equipment-based changes in behaviors, as well as increased participation in existing and future energy efficiency or demand response programs.

This program leverages comparative energy use reports delivered to residential customers by U.S. Mail, email, web portal, or any combination of the three channels, to

achieve greater customer awareness and energy savings. The provided information may include the following:

1. A normative comparison, contextualizing a household's energy use against that of a set of neighbors with similar attributes.
2. A personal comparison, showing the household its energy use over time.
3. Energy efficiency and demand response recommendations comprised of tips and program promotions.

This program was also leveraged to deliver integrated energy efficiency and demand response program offers to the participating customers. Traditional economic models are based on price and information to drive rational choice, yet customers are still not adopting energy efficiency and demand response when it is clear they can save money. The theory underlying comparative energy usage programs is that by providing customers information about their behavior though a comparison of their households energy use to that of similar households, along with relevant tips and offers, customers will modify behaviors and undertake actions and/or make energy efficient product purchases that result in energy savings. This program helps address the barrier that prevents customers from acting even when it makes economic sense through the use of behavioral components such as feedback, social approval and goal setting.

Implemented Strategies:

The program successfully reached the designated customer base in the deployment of the Home Energy Report expansion, which resulted in approximately 500,000 customers being auto-enrolled. The program results are expected to include electricity and natural gas savings. However, increased customer engagement and increased program uptake are yet to be determined as this program is evaluated ex-post which is due in early 2017. Customers are also encouraged to register on the online platform which provides additional information on how to save energy. When customers register on the online platform, they can view their neighbor comparison in more detail, receive additional recommendations and tips on how to save, create a plan on what they can do to save, view their home energy usage in more detail, provide additional information on their home

profile, and participate in the points and rewards program. The points and rewards component of the platform offers customers points when energy is saved. Customers can then redeem their points that they have earned in the rewards marketplace section of the platform. The points and rewards component of the platform is available to all SDG&E residential customers.

3. SDGE3282 SW-IDSM – IDSM

Program Description:

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

An IOU and Energy Division Statewide IDSM 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 the energy efficiency decision 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 SDG&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., 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 energy efficiency integrated marketing efforts.

Implemented Strategies:

- Further efforts on developing integrated cost effectiveness and EM&V methodologies are on hold pending direction from the Energy Division.
- The statewide IDSM 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.
- The California IOUs submitted four joint quarterly reports for 2016, 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 California Energy Efficiency Statistics Data Portal (EE Stats).
- The statewide IDSM Task Force held regular coordination phone calls to continue to ensure alignment across the state and discuss lessons learned.
- The IOUs have developed well established processes ensuring delivery of integrated messaging via marketing, education and outreach to residential and business customers. Delivery of IDSM marketing has become more than just promotion of multiple programs within specific tactics like collateral or

websites. It is now a key component in the planning phases of integrated ME&O to help provide the right solutions to the right customer, at the right time.

- The SW 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 Onsite Integrated Audits team continues to collaborate to share approaches and best practices and to discuss ongoing collaboration. The IOUs continue to offer onsite integrated audits to small, medium and large customers.

SDG&E's IDSM efforts included:

- Gathered, collaborated and prepared the quarterly and annual reports with internal and external stakeholders to provide information to the Energy Division and the Commission.
- Identified and collaborated upon items with the IOUs to further pursue alignment of IDSM objectives. This included attending monthly SW IDSM task force update calls and IOU subject matter experts sharing information regarding their areas of focus.
- Performed liaison services of integrated efforts between departments/sectors/teams/groups and informed the SW taskforce of progress being made.
- Integrated marketing campaigns and collateral continued throughout the year for business and for residential / smaller business customers.
- The ESA Program staff continued to work with energy efficiency program (MIDI, EUC, and MFEER) staff to further collaborate and streamline program processes. Referrals continued to be provided to the MIDI program of customers that exceed the ESA Program income guidelines.
- Continued to provide demand response enabled programmable communicating thermostats to both residential and commercial customers.
- The Home Energy Reports program continued throughout 2016 sending either bi-monthly paper reports or weekly energy insight reports to large numbers of

residential customers, which also provide tips and tricks on ways to save energy and encourage enrollment into energy efficiency and demand response.

- Provided thorough training to staff regarding IDSM objectives throughout the year. There was additional emphasis placed on the account executives and select program advisors to alter strategies to be more specific towards customer segmentation.
- Provided Sustainability Circles to help small to mid-sized enterprises develop a 5-year Sustainability Action Plan, or enhance an already existing plan. By use of the circles, participating companies have reduced wasted resources (energy, waste, water and procurement), increased employee engagement, complied with existing and coming regulations, as well as with customer requests for a sustainable supply chain.
- SDG&E held its 11th annual Energy Showcase which honored 10 San Diego business that were named "Energy Champions" for their investment in and commitment to sustainability and energy efficiency. All winners were engaged in IDSM activities.
- The Water Energy Nexus working group in collaboration with Commission staff continued efforts to determine the best ways to proceed in use of the embedded energy calculator. Plans to identify both custom and deemed embedded energy measures will be more thoroughly explored in 2017.
- The SDG&E Marketplace continued to expand for customers to quickly and easily shop for energy saving products and services offered by third party retailers. It is designed to help users save money through an easy-to-use tool that will help generate greater energy awareness, education and empowerment for customers to take action.
- Marketing and Outreach continue to share information and offer comprehensive solutions to customers of all customer segments.
- Emerging Technologies department continued to review a variety of products that could serve IDSM in the future.

- IDSM program leads collaborated closely with Balboa Park Cultural Partnership to continue to expand their work in sustainability and provide ME&O services to all visitors including the local community.

L. Statewide Marketing, Education and Outreach

1. SDGE3259 SW-ME&O

Program Description:

The Statewide Marketing, Education and Outreach (ME&O) program is implemented by the DDB San Francisco, a division of DDB Worldwide Communications Group Inc. (DDB) and DDB will file the Annual Report for SW ME&O.

Implemented Strategies:

Because Statewide ME&O is administered and implemented by a third party – DDB Worldwide Communications Group (DDB), SDG&E's ME&O staff strive for program success on a local level through on-going collaboration efforts between DDB and the IOUs at the EUC quarterly stakeholder meetings, regular calls, joint retail and/or community events, media appearances, and other opportunities as directed by the Statewide ME&O administrator. SDG&E provides regular feedback and consulting to the Statewide ME&O strategies and creative executions.

M. Statewide Workforce Education & Training

1. SDGE3254 SW-WE&T – Centergies

Program Description:

The Workforce Education & Training (WE&T) Centergies Subprogram is made up of seven IOU Energy Centers targeting specific market segments, including agriculture, food service, commercial and residential sectors. Centergies focuses on skills and market development trainings, technical consultations, outreach events, and building performance tool loans. The Energy Centers focus on educational strategies and partnerships that result in high-road education and training, to provide the trained, knowledgeable workforce necessary to meet California's energy efficiency, distributed generation and demand response goals.

Implemented Strategies:

SDG&E's WE&T program continues to offer certification trainings and certificate programs by offering exam prep workshops in various formats such as online, classroom, and field. The Building Performance Institute's Building Science Principles & Building Analyst, HVAC Excellence, North American Technician for Excellence, Green Building Certification Institute, and the Certified Energy Manager are a few that were offered.

In 2016, SDG&E collaborated with the San Diego Chapter of American Institute of Architects (AIA) and offered seminars and trainings specific to its members. Some of the topics included Energy Efficiency Building Standards and ZNE.

SDG&E collaborated with the San Diego Hispanic Business Chamber of Commerce to offer a bilingual seminar to an estimated 20 businesses in the North County area of San Diego. The seminar was presented in Spanish and English and educated businesses on the various rebates available for energy efficiency installations and foodservice equipment.

SDG&E collaborated with CalCerts, Inc. to develop and implement an Energy Compliance Training for HVAC Contractors for the San Diego City College, Center for Applied Competitive Technologies. A multi-phased energy code training program was delivered that focused on the City College's Air Conditioning, Refrigeration, and Environmental Control Technology (AIRE) instructors. SDG&E conducted a train- the-

trainer program to instructors on the 2013 Title 24 Energy Code, and worked closely to co-deliver the material to local non-residential HVAC contractors and professionals. The program included a market visibility section, working with industry stakeholders such as Building Owners and Managers Association International (BOMA) and the California Community Colleges Chancellor's Office and an overall program evaluation and report, which included program findings and next steps.

SDG&E continued to offer a series of seminars and trainings catered to trade professionals that provided in-depth understanding of available utility incentive and rebate programs. The series offered hands-on assistance on the energy efficiency project submittal process and incentive payment requirements. Other topics of focus for the seminars were: understanding time-of-use rates, demand response solutions, and financial tools.

SDG&E continued its partnership with the Center for Sustainable Energy (CSE) and the San Diego County Water Authority to offer homeowner workshops at the Energy Innovation Center. Over 1,000 homeowners participated in Solar, Solar Water-heating, & Water-wise Landscape workshops. During these workshops, homeowners received information on energy efficiency and demand response programs.

SDG&E has taken the opportunity to partner with the National Electrical Contractors Association (NECA), International Carpenters Union, and the Associated Builders and Contractors, Inc. to offer trainings on Title 24, Energy Management, Air Sealing & Insulation, and Commercial Refrigeration. The various groups have provided positive feedback about the caliber of instructors that have been brought in to provide training.

SDG&E also offers a foodservice component which includes a demonstration kitchen at the Energy Innovation Center. Commercial foodservice operators can watch an equipment demonstration or test their menu concept on energy-efficient equipment prior to purchasing equipment. In addition to the hands-on demonstrations, educational seminars provide knowledge on energy- and water- efficient technologies and practices to reduce their energy use. For the first time, The Cohn Group brought 15 of their executive chefs to have their monthly team meeting and tested out a few of the energy efficient equipment demonstrated on site. Additionally, several K-12 schools visited the Energy

Innovation Center for equipment demonstrations including San Ysidro Middle School, Sweetwater Union High School and Escondido, Solana Beach and Encinitas Union school districts. More than 100 demonstrations and 10 seminars were offered engaging over 500 participants.

2. SDGE3255 SW-WE&T – Connections

Program Description:

The WE&T Connections Subprogram seeks to promote energy efficiency and energy/green sector career awareness along all educational paths (levels), from K-12 to post-secondary. Connections achieve its energy efficiency educational goals to facilitate energy efficiency strategic planning and educational programing at all educational paths. The subprogram infuses the energy efficiency, demand response, and relevant career messages through interactive curricula and educational materials, student assemblies, and teacher workshops. As appropriate, curricula and educational materials are correlated to the California Department of Education's content standards.

Implemented Strategies:

SDG&E helps engage the next generation of energy-related workers through supporting energy education and outreach. Over 7,500 students were reached at nearly 100 K-12 schools. Over 70% of the schools participating are Title-1, supporting opportunities for disadvantaged students. In addition, SDG&E helped create a partnership with the Padres and the non-profit organization Science of Sport to develop a comprehensive energy and water audit lesson incorporating recent energy efficiency retrofit features at Petco Park Stadium. During the year, over 670 students from 20 schools participated in student events held at the Energy Innovation Center, bringing students on-site to learn about energy efficiency and green career awareness. Participating students scored higher on post-test knowledge-based questions.

3. SDGE3257 SW-WE&T –Strategic Planning

Program Description:

The WE&T Strategic Planning and Implementation Subprogram provides the Statewide framework for planning, coordinating, and implementing WE&T activities and recommendations to meet the WE&T goals in the California Long-Term Energy Efficiency Strategic Plan. In addition, and as appropriate, this subprogram addresses the WE&T recommendations in the Needs Assessment for energy efficiency, distributed generation and demand response. Planning and implementation efforts include facilitating the transition of pilot programs at local and statewide level, managing and incorporating new and best practices, and monitoring and recalibrating efforts to ensure attainment of planned outcomes.

N. Third Party Programs

1. SDGE3211 (3P) Local-CALS – Middle Income Direct Install (MIDI)

Program Description:

The Middle Income Direct Install/Residential Direct Install (MIDI/RDI) program provides direct install energy efficiency services to customers that meet income eligibility criteria (201-300% of Federal Poverty Level) within SDG&E's service territory. This generally hard-to-reach segment was provided a range of energy efficient measures at no cost to the customer.

Implemented Strategies:

The program completed a successful Family Electric Rate Assistance (FERA) Postcard Campaign intended to capitalize on synergies between FERA and MIDI. FERA is a rate that serves a similar population to those served by MIDI. MIDI also relied on leads (customers exceeding eligibility requirements) provided through the ESA program. Despite these efforts, MIDI did not meet energy savings goals in 2016 in part due to a lack of program awareness by qualifying customers. For example, there is often a perception that utility programs are exclusively for lower income individuals. MIDI-qualifying customers sometimes overlook the program for that reason. As SDG&E looks to further integrate with low-income programs and consolidate vendors across energy efficiency and low-income, it is anticipated penetration will improve as a result of having a single touchpoint. SDG&E is looking to identify alternatives to improve penetration in 2017. SDG&E will leverage the same supplier implementing successful MFEER, CMHP and ESA programs. This new program approach offers customers a more seamless service model and enables SDG&E to identify previously hard-to-reach customers that qualify for the MIDI program.

2. SDGE3212 (3P) SW-CALS - Residential HVAC-QI/QM ("AC Quality Care")

Program Description:

The Quality Maintenance and ENERGY STAR Quality Installation Programs continued under the name "AC Quality Care." The AC Quality Care targets residential

customers in SDG&E's service territory with air-cooled refrigerant-based (known as "direct expansion" or "DX") air conditioning improvements that follow the procedures and protocols adopted by the Statewide Residential Quality Maintenance (QM) and Residential Quality Installation (QI) Programs. These programs are developed in accordance with the QM and QI standards developed by the Air Conditioning Contractors of America (ACCA) and approved by the American National Standards Institute (ANSI) and QI meets the requirements of the ENERGY STAR HVAC Quality Installation program. The program continues to investigate additional measures and methodologies that could be used to augment the AC Quality Care cost effectiveness.

Implemented Strategies:

Program participation for 2016 QM exceeded goal by roughly 7%. QI, at roughly 88%, fell short of its participation goal. The program was able to take advantage of the mild summer to continuously provide QM services during July through September, when there is usually a drop off due to the contractor workforce shifting to emergency and trouble calls. The comprehensive level of screening, training, inspection, and mentoring continues to differentiate the quality of work compared to other residential energy efficiency programs.

3. SDGE3218 (3P) SW-COM-Customer Services – Audits Healthcare Energy Efficiency (HEEP)

Program Description:

The 2016 Healthcare Energy Efficiency Program (HEEP) addressed hospital and medical office buildings. The program leverages a pay for performance structure to identify energy efficiency and energy conservation measures. In addition, the program refers customers to resource incentive and rebate programs and guides them through the application process. In 2016, a final list of projects was identified and added to the implementer's contract for HEEP. The program shut-down activities were initiated late in the year after completion of the remaining, identified projects. These projects were split by customer and program applications. Due to the influx of Energy Efficiency Rebate Program

applications, the contractor was unable to complete the customers' project by the contract deadline; however, these projects will be accepted into SDGE 3217 Comprehensive Audit Program for further completion.

Implemented Strategies:

Following a program evaluation and as part of the development of a more comprehensive audit program offering, in order to eliminate overlap, increase efficiency and reduce audit costs for customers it was determined that HEEP would be consolidated with Program SDGE3217 in 2017 as filed in Advice Letter 2951-E/2515-G filed on September 1, 2016.

4. SDGE3219 (3P) SW-COM-Customer Services – Audits Lodging Energy Efficiency (LEEP)

Program Description:

The Lodging Energy Efficiency Program (LEEP) addresses hotels and various lodging resorts. The program is a pay for performance program that identifies energy efficiency and energy conservation measures. In addition, the program refers customers to resource incentive and rebate programs and guides them through the application process. In 2016, a final list of projects was identified and added to the implementer's contract for LEEP. The program shut-down activities were initiated late in the year after completion of the remaining, identified projects. These projects were split by customer and program applications. Due to the influx of Energy Efficiency Rebate Program applications, the contractor was unable to complete the customers' project by the contract deadline; however, these projects will be accepted into SDGE 3217 Comprehensive Audit Program for further completion.

Implemented Strategies:

Following a program evaluation and as part of the development of a more comprehensive audit program offering, in order to eliminate overlap, increase efficiency and reduce audit costs for customers it was determined that LEEP would be consolidated with Program SDGE3217 in 2017 as filed in Advice Letter 2951-E/2515-G filed on

September 1, 2016.

5. SDGE3221 (3P) SW-COM-Calculated Incentives – Retrocommissioning (RCx)

Program Description:

The Retrocommissioning (RCx) Program provides services and incentives to support RCx of commercial buildings larger than 50,000 square feet. The program recruits potential candidates, screens and benchmarks buildings to determine eligibility, qualifies RCx providers, and provides oversight of the RCx process, including the provider's investigation. Following investigation, the program helps customers select measures for implementation then provides support throughout the implementation process to maximize energy savings. When implementation is completed, the RCx provider conducts verification of the measures and provides training to the building operators to maintain the measures and associated energy savings over time. All deliverables are reviewed and accepted by the program prior to submission to SDG&E for final approval.

Implemented Strategies:

2016 was the final year of the SDG&E RCx program, and implementation activities focused on successfully concluding the pipeline of projects initiated since 2013. A total of 12 projects were underway at the beginning 2016, and all 12 projects were completed successfully with combined energy savings exceeding program goals.

A key to the success of the RCx program has been the successful partnership between SDG&E account executives, the implementer (CLEAResult), and several engineering firms that act as RCx Providers in the program. CLEAResult qualified providers established rigorous technical requirements to help ensure that projects are successful for customers and that ample substantiation of project energy savings is available for SDG&E. The program delivered careful analysis of customer facilities, identified valuable operational and maintenance energy saving opportunities, and advised customers on implementation. The program's highly skilled RCx Providers identified cost effective projects for customers, verified proper implementation, and provided training to

building operators on project close-out.

SDG&E decided to conclude the RCx program in 2016 after the passing of AB 802 suggested a redesign of the program and CPUC rulings impacting the program design. Like many custom energy efficiency projects, RCx projects commonly extend over multiple years. Hence, a substantial push was needed to get all projects successfully concluded for all stakeholders by the end of 2016. This was achieved with the close coordination of RCx Providers, CLEAResult and SDG&E. It is important to note that although the 12 projects were completed, there were also other customers and measures identified in 2016 that were not addressed in the SDG&E 3221RCx program due to implementation constraints and concerns about the potential for stranded savings. SDG&E 3221 was superseded by the new RCx HOPP as filed in AL 2951-E/2512-G on September 1, 2016.

6. SDGE3224 (3P) SW-COM-Deemed Incentives – HVAC Commercial

Program Description:

This program is designed to stimulate the supply and sales of premium-efficiency Heating, Ventilation and Air Conditioning (HVAC) systems and provide energy efficiency tune-up services to commercial customers. This program also delivered the Statewide Commercial HVAC Subprograms. The program provides incentives to participating distributors (upstream), customers, HVAC contractors (midstream) and equipment specifier/end-users who install qualifying air conditioning systems, thermostats or controllers in commercial replacement and new construction applications, or who participate in program tune-up services. The program also offered Commercial Quality Installation (ACCA 5/9) and Commercial Quality Maintenance (ANSI-ASHRAE-ACCA Standard 180) to encourage customers to meet HVAC market transformation targets.

Implemented Strategies:

The program has been popular with customers and participating contractors, yielding cost effective savings deployed on a large scale to serve difficult-to-reach small and medium business customers through local and statewide offerings. The program met or exceeded goals on cost effectiveness measures, targeted savings goals, Diverse Business

Enterprise spending, budget and program management milestones, and customer satisfaction. Customer experience has been positive and is reflected in high marks in customer satisfaction surveys and an abiding commitment to continual improvement.

Local area tune-ups have been marketed effectively by participating contractors and have led to strong demand and a steady stream of customer enrollments. These have been highly successful at engaging difficult-to-reach customers, while providing customers with a thorough industry standards-based (ANSI-ASHRAE-ACCA Standard 180) diagnostic evaluation of their HVAC units. The upstream program witnessed larger numbers of submittals from HVAC distributors in 2016. Commercial Quality Maintenance and Quality Installation continues to gain market traction for customers seeking extended life of their equipment, better indoor air quality, energy savings, and customer comfort through the HVAC standards based approach.

7. SDGE3226 (3P) SW-COM Direct Install

Program Description:

The Direct Install Program delivers no-cost or discounted energy efficiency hardware retrofits through installation contractors to reduce peak demand and energy consumption for small and mid-sized non-residential customers. The program is designed to increase the adoption of energy efficient measures by small, mid-sized, and hard-to-reach non-residential customers by offering an energy efficiency energy audit as well as energy efficiency equipment and installation at no-cost or at a discounted price.

Implemented Strategies:

SDG&E extended its contracts with the program's third party implementers in 2016 and continued to provide its contractors with training to help improve energy audits and drive higher sales. In September, a decision was made to reduce rebate levels for some of the LED fixtures in an effort to become more cost effective. Throughout the year, measure costs were also renegotiated with the program's contractors to further discount the price and reduce the customer's co-pay for several products offered. In addition, a survey was completed in December with over 300 program participants to gauge customer satisfaction

and collect feedback as to how the program can improve going forward. Ultimately, the Direct Install program saw an overall increase in program activity in 2016 with the program installing over 200,000 measures for over 3,800 customers.

8. SDGE3230 (3P) SW-COM-Customer Services - Audits Comprehensive Industrial Energy Efficiency (CIEEP)

Program Description:

The Comprehensive Industrial Energy Efficiency Program (CIEEP) develops and implements industrial energy efficiency projects with a focus on both demand reduction and energy efficiency. Incentives are offered through SDG&E core incentive programs.

Customer Facility Audits are provided under the program and offer customers a comprehensive list of measures, savings, and incentive amounts. Upon customer indication of project priorities, the program works with the customer to file applications for incentives and implementation of the project. This comprehensive program targets all available energy efficiency technologies.

Implemented Strategies:

SDG&E leverages its Business Services' account executives to identify customers and opportunities for this program. The account executives are very knowledgeable regarding their assigned customers and have been diligent in introducing the CIEEP Program Contractor to these customers. The vendors worked diligently in 2016 to compile a list of projects and target customers to be implemented and completed in 2017.

9. Customer Services – Pump Test Services

a. SDGE3235 (3P) SW-AG-Customer Services-Pump Test Services

Program Description:

The Energy Efficient Water Pumping Program improves the energy efficiency of water pumps used for irrigation and domestic water supply. The Program will focus on three market sub-segments: 1) Agriculture; 2) Municipal Water Agencies; and 3) Large Turf Recreational Facilities, such as golf courses, parks and sports fields. Industrial process

pumps, high rise buildings, convention centers, cooling towers, condenser and chiller pumping accounts, in addition to primary, secondary and tertiary sewage pumps. To achieve energy savings, this program will cover the cost of pump tests for SDG&E customers. The program will provide the customers with an Operational Plant Efficiency Report, and Energy Cost Savings Analysis and SDG&E Incentive Program Assistance. The reduction in water use will also translate to embed energy savings, as reduced water use means less energy required to run and deliver water to a water pump.

Implemented Strategies:

The SW AG Pump Test Services program will be assessed in 2017 to evaluate opportunities to improve the programs performance. During this evaluation, SDG&E will work to determine how this program will best fit into new strategies and tactics for meeting customer needs, as well as SDG&E service territory needs for the Agriculture sector.

b. SDGE3291 (3P) SW-IND-Customer Services-Pump Test Services

Program Description:

The Water Infrastructure and System Efficiency (WISE) Program, addressed municipal, commercial, and industrial pumping systems. The program performs pump tests, individual pump efficiency evaluation, and pumping system analysis. The program provides pump efficiency benchmarking, retrofits, repairs, and replacement energy efficiency recommendations to the customer. The program refers customers to SDG&E's core Energy Efficiency Business Incentives Program to take advantage of incentives to assist with the cost for pumps that are repaired or replaced in order to improve energy efficiency and lower energy costs. The program also encouraged the customer to enroll in demand response programs, and assists the customers in evaluating IDSM opportunities.

Implemented Strategies:

The WISE Program performed in depth analysis on water pump systems for customers that brought valuable education about making decisions on equipment that could be retrofitted, repaired, or replaced. There were a high number of enrollments by

commercial customers, and there were low number of industrial customers within the SDG&E service territory. In order to accommodate the high level of commercial enrollments and meet customers' needs in that area, the WISE Program shifted the industrial funds to the commercial side. The pump test services program will be assessed in 2017 to evaluate opportunities to improve the programs performance. During this evaluation, SDG&E will work to determine how this program will best fit into new strategies and tactics for meeting customer needs, as well as SDG&E service territory needs for the industrial sector.

c. SDGE3292 (3P) SW-COM-Customer Services – Pump Test Services

Program Description:

The WISE Program addressed municipal, agricultural, commercial, and industrial pumping systems. The program performs pump tests, individual pump efficiency evaluation, and pumping system analysis. The program provides pump efficiency benchmarking, retrofits, repairs, and replacement energy efficiency recommendations to the customer. The program refers customers to SDG&E's core Energy Efficiency Business Incentives Program to take advantage of incentives to assist with the cost for pumps that are repaired or replaced in order to improve energy efficiency and lower energy costs. The program also encouraged the customer to enroll in demand response programs, and assists the customers in evaluating IDSM opportunities.

Implemented Strategies:

The WISE program performed in depth analysis on water pump systems for customers that brought valuable education about making decisions on equipment that could be retrofitted, repaired, or replaced. The customers showed varying degrees of interest in the program due to WISE's highly adaptable program design to the customer's project energy efficiency needs. Multiple commercial customers enrolled in the program for pump tests, individual pump efficiency analysis, and pump system efficiency evaluation for evaluation in 2016. Customers enrolled in the Energy Efficiency Business Incentive Program to take advantage of the incentives to retrofit, repair, and replace their pumps and pump systems.

10. SDGE3279 (3P) Res-Comprehensive Manufactured – Mobile Home

Program Description:

The residential Comprehensive Manufactured and Mobile Home (CMMH) Program is designed to complement SDG&E's residential energy efficiency portfolio by providing energy efficiency measures on a comprehensive basis to manufactured and mobile home customers in the SDG&E service territory. This is a targeted market that is not reached by statewide mass-market programs, but shows rich potential for cost effective energy and demand savings.

Implemented Strategies:

SDG&E's mobile home program continues to be successfully implemented as a one-touch customer approach serving a hard to reach customer segment in the SDG&E service territory. SDG&E has also been efficiently converting mobile home parks throughout the service territory from master-meter accounts to individual customer accounts.

The CMMH Program did have a few modifications in 2016. New measures such as central AC brushless fan motor, LED A-lamps and Tier-2 advanced power strips were approved for the program and began installations within the year to increase program savings and allowed SDG&E to achieve the program goal.

11. SDGE3280 (3P) –Innovative Designs for Energy Efficiency Activities (IDEEA) 365

Program Description:

SDG&E, along with the other California IOUs, established a cross-cutting third party solicitation program called the IDEEA365 Program that promotes the "rolling" solicitation concept and is focused on new innovative programs for the 2013-2017 cycle. The program is designed to allow for continuous introduction of innovative ideas and technologies into the energy efficiency portfolio by drawing from the skill, experience, and creativity of the energy efficiency community and third party implementers. The IDEEA365 Program creates a mechanism for competitive solicitations offered year round for new third party

resource programs that produce cost effective energy savings and demand reduction or non-resource programs strongly tied to customer initiation of energy savings opportunities offered by SDG&E's core programs.

Implemented Strategies:

In 2016, IDEEA365 completed the fourth round of the innovative solicitation. There were 47 proposals submitted for review, which resulted in two (2) third party energy efficiency programs being selected. Program implementation plan development and contract negotiations began in late 2016, with final contracts and program implementation anticipated in the second quarter of 2017.

12. SDGE3306 (3P) – Residential Splash

Program Description:

The Residential SPLASH Program is a third party program designed to capture electric energy savings potential that exist in residential single-family in-ground swimming pool systems throughout SDG&E's territory. The SPLASH program experienced low participation related to lack of awareness of robotic pool cleaner technology which would have required additional product development by the contractor. As a result, the SPLASH program was closed via Advice Letter 2932-E filed on July 26, 2016 and approved effective August 15, 2016.

Implemented Strategies:

As stated above, the program closed in 2016 via SDG&E's Advice Letter 2932-E.

13. SDGE3307 (3P) – Zero Energy Loss Drain Adoption

Program Description:

Zero Energy Loss Drain Adoption (ZELDA) is a third party, energy efficiency program implemented by the Contractor to capture energy savings throughout SDG&E's service territory with the installation of Zero Energy Loss Drains (ZLD). The program targets customers with air compressors of 150 horsepower (HP) and less, although larger sized compressors are eligible. ZLDs expel condensate from compressed air systems with

no associated loss of compressed air. They are typically installed at the compressor, air dryer, filter, storage tank, or at any low point in the piping where moisture might collect. ZLDs open a valve only when signaled by the condensate level control.

The contractor uses a partnership approach with zero energy loss drain manufacturer representatives and distributors to quickly identify and reach out to the target market segments and compressor users. The total rebate per drain is $175.

Implemented Strategies:

The Contractor was active in marketing the program throughout 2016, and hosted a seminar at the Energy Innovation Center to present the program to approximately 150 industry professionals who attended. In addition, field visits were made to mid-channel partners and air compressor service technicians. In order to try and increase participation, the program was slightly modified in 2016 to provide a $25 incentive to mid-channel partners for facilitating and submitting qualifying customer incentive applications for the purchase and installation of ZLD units. Although all of these efforts were made, the participation was relatively low for purchase of the ZLD units. The program will be evaluated in 2017 to determine its effectiveness and future.

14. SDGE3309 (3P) – Sustainable Labs Program

Program Description:

The Sustainable Labs Program (SLP) addresses biotech and pharmaceutical laboratories. The program is a pay for performance program that identifies energy efficiency and energy conservation measures. In addition, the program refers customers to resource incentive and rebate programs and guides them through the application process. In 2016, a final list of projects was identified and added to the implementer's contract. The program shut-down activities were initiated late in the year after completion of the remaining, identified projects. These projects were split by customer and program applications. Due to the influx of Energy Efficiency Rebate Program applications, the contractor was unable to complete customers' project by the contract deadline; however, these projects will be accepted into SDGE3217 Comprehensive Audit Program (CAP) for

further completion.

Implemented Strategies:

Following a program evaluation and as part of the development of a more comprehensive audit program offering, in order to eliminate overlap, increase efficiency and reduce audit costs for customers, it was determined that SLP would be consolidated with program SDGE3217 in 2017 as filed in Advice Letter 2951-E/2515-G submitted on September 1, 2016.

15. SDGE3310 (3P) – Multifamily Heat Pump Optimizer

Program Description:

The Multifamily Heat Pump Optimizer Program is a full service turnkey program intended for SDG&E's residential multifamily customers who have heat pumps with an electric resistance back-up heat source. The program provides a system efficiency screening, installation of a Western Cooling Control™ and installation of a Hairrell Heat Pump Control™.

Implemented Strategies:

The program implementer screened representative systems at various property locations with approximately 1,800 total heat pumps, however none of them met the program criteria for participation, most notably, because of the lack of wired-in electric resistance heat. As a result, SDG&E worked with the implementer to determine if additional resources were available that could help overall program success. SDG&E offered its Privacy Greenlight service to help further identify eligible customers. In addition, SDG&E extended the contract end date to March 2017 to allow for additional program participation.

Despite the additional efforts, the program was unable to solicit additional customer participation and officially ended in March 2017 as referenced in Advice Letter 2951-E/2512-G filed on September 1, 2016.

16. SDGE3311 (3P) – Energy Advantage Program (EAP)

Program Description:

The Energy Advantage Program (EAP) is a non-resource third party energy efficiency program selected by SDG&E through the IDEEA 365. EAP is designed to educate hard to reach, small and medium business customers about energy savings opportunities, to support installation of incremental cost effective EE projects, and to achieve savings for SDG&E through facilitating rebates and incentives for energy efficiency measures. EAP aims to influence implementation of projects that otherwise would not be completed, and, as a non-resource program, is designed to increase program participation and energy savings in SDG&E's energy efficiency programs.

EAP recruits target customers in SDG&E's territory through partnering with lenders serving the small to medium business market, including Certified Development Corporations (CDCs) who lend on behalf of the Small Business Administration and offer the SBA 504 loan product. Other lenders include community-based, Property Assessed Clean Energy (PACE) and traditional commercial lenders. Lenders refer customers to EAP who are good candidates for, and interested in, no-cost energy efficiency support. This can include customers who: 1) are taking out loans to make future capital investments in their property through new construction, gut rehabilitation or equipment retrofit; 2) have recently acquired or retrofitted property and did not update energy systems or participate in utility programs; or 3) are other customers of lenders who may benefit from energy efficiency upgrades. EAP also recruits small and medium business customers through local business associations, networking events, utility account executives and other means that are considered a good match for the small business lenders the program partners with. These leads can be referred to lenders for financing or referred to utility financing programs.

EAP educates stakeholders about the availability and benefits of various financing options and EAP's services, including SDG&E account executives, local community-based organizations (CBOs), industry associations, chambers of commerce, and targeted trade allies/contractors.

Once referred to the program, EAP offers a range of no-cost technical assistance to identify and quantify energy efficiency opportunities for the customer. This is typically delivered through a comprehensive energy audit at the facility, but may also include new construction design review, or support on selecting a single piece of equipment. The level of technical services provided is based on customer size, complexity, energy savings opportunity and customer interest. Following the technical support, a customer report is developed and presented to the customer to discuss energy, cost and non-energy benefits of upgrades and choices. EAP provides follow-up support services to help the customer implement projects and get incentives.

Implemented Strategies:

In total, EAP has engaged with and educated more than 30 small business lenders, and enrolled 16 lenders as active marketing partners in the program, reaching 100% of our goal of 15 since the program inception. EAP also trained account executives and other key SDG&E employees through an SDG&E training event, and coordinated with the utility trade ally coordinators on lead referral protocols and opportunities to increase program participation. EAP coordinated directly with the Small Business Administration (SBA) in California on marketing the program. EAP joined multiple small business regional associations that are coordinated with regional lenders, and presented the program at meetings.

O. Pilot Programs

1. Prop 39 Zero Net Energy (ZNE) Schools Pilot Program

Program Description:

Proposition 39, California's Clean Energy Jobs Act, will provide $500 Million per year to improve energy efficiency and the use of clean energy in K-12 Schools and Community Colleges.

The CPUC identified Prop 39 as an opportunity to expand California's progress on Zero Net Energy (ZNE) retrofits in support of the state's high level energy/sustainability goals. The CPUC directed the IOU's to develop a Prop 39/ZNE pilot program for eligible schools (K-12 and Community Colleges) to provide the necessary resources to make ZNE a reality for qualifying schools.

The program will contain six elements: 1) ZNE Demonstration School Retrofits; 2) Technical Training, Outreach and Recognition; 3) Institutional Training; 4) Codes and Standards Coordination, Advocacy and Training; 5) Production Program Development; and 6) Emerging Technologies Support.

SDG&E identified a variety of potential resources to make this possible, such as financial support for energy modeling and a detailed energy efficiency analysis on systems such as HVAC, Lighting and Envelope measures. The pilot will also strive to develop a process for "buying down" the full incremental cost of achieving the energy utilization footprint required for ZNE.

To ensure schools achieve ZNE status, monitoring and evaluation of the major building systems to check for operating problems and/or anomalies is critical. In addition, the utilities will produce materials and publications, including trainings based on those materials, demonstrating key successes in high performing ZNE buildings.

Working with stakeholders in the schools community, the CEC, CPUC, the governor's office, other state agencies and the utilities will develop a recognition program highlighting outstanding energy efficiency and ZNE performance in the K-12 and Community College arenas.

SDG&E accepted its first project, the Vista Grande Elementary School, which is part of the San Diego Unified School District. This two-story, 55,000 sq. ft. facility is now in the early stages of schematic design with computer energy simulation models being completed in May 2016. The project is due to complete in 2018. High Tech Middle North County was selected in June 2016 as the second project. The school was built in 2012 and is certified LEED platinum, and presently has an EPA Energy Star Portofolio Manager score of 100. The school currently has an energy model completed and is scheduled to have lighting and HVAC upgrade measures implemented and the project completed by 2017.

2. Statewide New Finance Offerings

SDGE3264 SW-FIN – New Finance Offerings CHEEF & Funds Reserved

SDGE3296 SW-FIN – New Finance Offerings Small Business Lease Off

SDGE3297 SW-FIN – New Finance Offerings Fin Pilot Cr Enhancement SFLP

SDGE3298 SW-FIN – New Finance Offerings Med/Large OBR

SDGE3299 SW-FIN – New Finance Offerings MMMFP OBR

SDGE3300 SW-FIN – New Finance Offerings Small Business Lease OBR

SDGE3301 SW-FIN – New Finance Offerings Small Bus Loan OBR

SDGE3308 SW-FIN – New Finance Offerings Finance ME&O

SDGE3312 SW-FIN – New Finance Offerings Finance Pilot IT Support

Program Description:

Per the decision implementing 2013-2014 Energy Efficiency Financing Pilot Programs (D.13-09-044), the IOUs are developing a series of Statewide Financing Pilot Programs that offer scalable & leveraged financing products and test market incentives for attracting private capital through investment of ratepayer funds.

The pilots include the following on-bill repayment (OBR) programs:

- Small Business OBR Loan Program
- Small Business OBR Lease Program
- Non Residential OBR without Credit Enhancements (CE) Program

- Master-Metered Multifamily OBR Program
- Residential Energy Efficiency Finance Line Item Charge (EEFLIC) program

These pilots are intended to test whether payment on the utility bill increases debt service performance across market sectors.

The pilots also include two off-bill programs:

- Residential Energy Efficiency Loan Program (formerly known as the Single Family Loan Program); and
- Off-Bill Small Business Lease Providers Program

The pilots will include various forms of credit enhancements (CEs) for residential properties and small businesses. The CEs are expected to provide additional security to third party lenders and private capital so they can extend or improve credit terms for energy efficiency projects. The Financing Pilots are administered by CAEATFA. The first regular track program (Residential Energy Efficiency Loan Assistance Program or REEL) launched in summer 2016. The OBR programs are scheduled to launch in late 2017. SDG&E completed its OBR Information Technology (IT) buildout in 2016 and successfully completed initial testing with the Master Servicer.

Implemented Strategies:

These Pilots were expected to launch in 2013; however, operational challenges have delayed the launch. As discussed above, additional pilots are scheduled to roll out in 2017.

P. High Opportunity Project or Program (HOPP)

1. SDGE3317 HOPP Retrocommissioning (RCx)

Program Description:

As a response to the Ruling Regarding High Opportunity Energy Efficiency Programs or Projects (HOPPs) dated December 30, 2015, which established requirements and called for high opportunity energy efficiency programs or project proposals, SDG&E designed its HOPP RCx program to offer a systematic process to identify operational and maintenance improvements that optimize building performance and ensure that building systems function efficiently and effectively. SDG&E submitted the original HOPP RCx Advice Letter 2864-E on March 1, 2016 and it was approved by the CPUC on August 3, 2016, effective July 27, 2016.

HOPP RCx is further designed to ensure persistence of savings by requiring customers to commit to a three-year maintenance plan. This program will replace SDG&E's existing RCx program.

Implemented Strategies:

SDG&E and the contracted implementer worked closely in Q4 2016 to develop the Program Manual and met with internal stakeholders to discuss program implementation strategies. The program will be fully operational in 2017.

2. SDGE3318 HOPP Multi Family

Program Description:

The Multifamily HOPP focuses on early replacement measures in common areas. The Multifamily HOPP will introduce new common area measure categories and augment other offerings. The target market for the proposed program is high energy use intensity (EUI) multifamily buildings built prior to 1980, regardless of income qualification or location. The Multifamily HOPP will implement a direct install approach to address challenges faced to-date engaging property owners on making energy efficiency upgrades to their common areas. The Multifamily HOPP will also focus on developing benchmarks, case studies and robust return on investment calculations for common areas in these

targeted buildings.

Implemented Strategies:

In Q4 2016, the contractor performed the administrative tasks needed to fully launch the program in 2017, including creating the Implementation Plan and the Program Manual.

Q. SDGE3324 Water/Energy Nexus Initiatives

Program Description:

The California Water Plan is the State government's strategic plan for managing and developing water resources statewide for current and future generations.[4] It provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future.

The Commission opened Rulemaking (R.) 13-12-011 that is intended to develop policies that will promote a partnership framework between energy investor owned utilities (IOUs) and the water sector to develop and implement Water-Energy Nexus (WEN) programs and initiatives to meet the requirements of the California Water Plan.[5] The Commission's ultimate goal is to "reduce energy consumption by the water sector in supplying, conveying, treating, and distributing water." The specific issues to be addressed in this rulemaking are:

(1) Development of a WEN cost effectiveness calculator that would determine the embedded energy in water and water system benefits resulting from water-energy programs;

(2) Address WEN in multiple contexts such as (1) water conveyance and other related water delivery/recycling, including demand response and time shifting programs; (2) energy production, transmission and distribution; (3) agricultural, residential and commercial applications, etc.

(3) Evaluate inter-agency coordination between California Independent System Operator, the California Energy Commission, the California Department of Water Resources, other state, local, regional, and federal agencies, and tribal governments in promoting the water-energy nexus, and consider steps to promote collaboration with irrigation districts;

(4) Coordinate WEN rulemaking with other current and future energy efficiency,

[4] The California Water Plan is available at http://www.water.ca.gov/waterplan/about_us/index.cfm.
[5] *Decision Granting petition and Opening Rulemaking*, December 30, 2013 is available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M084/K481/84481715.PDF.

energy savings assistance, etc. to ensure consistent treatment of WEN programs within EE programs;

(5) Evaluate access to electric, gas, storage, renewable energy, and other power infrastructure as an enabling technology to address the water-energy nexus, including the link between power access and communications facilities; broadband internet access for water storage, treatment, conveyance, recharge, recycling, managers, utilities, and users; and consider steps to promote such access to address the water-energy nexus;

(6) Examine appropriate methodologies for cost sharing/allocation for WEN programs and availability of additional funding from other sources;

(7) Incorporate telecommunications and public safety issues as they relate to WEN; and

(8) Conduct necessary program evaluations of WEN pilots/programs to address potential barriers to implementation, and facilitate deployment of cost-effective measures to conserve water and energy.

The Commission issued several decisions that would promote these WEN objectives. Decision (D.) 15-09-023 adopted the WEN Cost Calculator tool that is designed to calculate the embedded energy in water and avoided capacity cost associated with water savings.[6]

D.16-06-010 approved pilots to test the impacts of joint delivery of energy and water data to customers, including the shared use of the energy utility's advanced metering communication network.[7] This decision also set the requirements for the IOUs to report WEN activities beginning with the 2016 EE Annual Reports due in 2017.[8]

D.16-11-021 approved the electric energy IOUs pilots to test the concept of "Matinee Rates" that would encourage water and energy use efficiency. The Matinee Rates pilots

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[6] *D.15-09-023*, *Decision regarding Tools for Calculating the Embedded Energy in Water and an Avoided Capacity Cost Associated with Water Savings*, September 25, 2015 available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M154/K551/154551293.PDF.

[7] *D.15-09-023, Decision approving pilots to Test Impacts of Joint Delivery of Energy and Water Data to Customers and Exploring Technical Issues Associated with Shared Use of Energy Utility Advanced Metering Communication Network*, June 9, 2016 available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M163/K328/163328148.PDF.

[8] *Id*. at 21.

would provide for "tariffs that would encourage a shift in energy use by commercial, industrial and agricultural users to alternative times of the day when abundant renewable and low-water-using energy are produced at high (and growing) quantities."[9]

D.16-12-047 provides direction for next steps to: (1) update the WEN calculator and connect it to the EE cost effectiveness calculator; (2) incorporate a value representing the embedded natural gas in the water system; and (3) create a Plan of Action to update the WEN calculator working with the Energy Division.[10] Additionally, the decision provides direction regarding communications technologies to mitigate the effects of natural disasters and report service outages.

1. Water-Energy Nexus Calculator and Measure Work Paper Activities

In the second quarter 2016, SDG&E identified two key issues to allow the IOUs to begin using the calculator as intended including the establishment of the gallons saved per measure and the end of useful life (EUL) of that measure, and finally the reporting requirements to report the embedded energy savings.

To identify the gallons saved per measure and end of life, SDG&E assigned engineering resources to identify the best approach in determining these factors. Engineering suggested leveraging the current relationships with the water agencies to find existing white papers and saving tables produced by the water agencies to help speed up the process. Through its partnership with the San Diego County Water Authority, SDG&E was able to gather information from a variety of water industry standard assumptions for water savings of water measures which included the Metropolitian Water District (MWD) savings tables and EUL. MWD maintains a comprehensive list of both cold water and hot water measures that they support in water efficiency and conservation programs and includes information such as gallons saved and EUL. Given that the water agencies and

[9] *D.16-11-021, Decision Approving Pilots for Matinee Pricing*, November 16, 2016 available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M169/K487/169487466.PDF.
[10] *D.16-12-047, Decision Updating the Water Energy Nexus Cost Calculator, proposing Further Inquiry, and Next Steps*, December 20, 2016 available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M171/K495/171495551.PDF.

districts know significantly more about water savings than the gas and electric IOUs, it was the recommendation from both engineering and program advisors to use MWD values in the calculations proposed to the Energy Division. Towards the end of the year, it was confirmed by the Energy Division that the numbers from MWD would be a valid place to start and requested the IOUs to create a work paper using the information. For all measures not covered in the MWD measure list, a custom measure work paper would be created. Pacific Gas & Electric Company is currently leading the custom measure work paper initiative. The work paper outlining the approach to use the calculator will be submitted to the Energy Division staff in 2017.

With respect to WEN reporting requirements, a task force to work with the Energy Division was created to identify the best way to report the embedded energy savings which should also be established in 2017.

2. Advanced Metering Infrastructure Pilot Activities

In D.15-09-023, the Commission ordered a workshop on one or more pilots on AMI integration. The specific goal of the pilot(s) is to identify technical issues with a water corporation "piggybacking" on electric and/or gas corporation AMI infrastructure. It is anticipated that utilizing the energy utility's AMI backbone, the participating water agency could achieve water savings associated with the AMI installations resulting in embedded energy savings.[11]

On November 20, 2015, "Assigned Commissioner's Ruling Regarding Advanced Meter Infrastructure Pilot Proposals and Setting Workshop," was issued. The Ruling required that final pilot proposals be filed on February 16, 2016. SDG&E participated at the January 19, 2016 workshop during which SDG&E previewed its AMI WEN pilot proposal. On February 16, SDG&E filed its final pilot proposal as required by the Ruling.

SDG&E's proposed pilot was approved by the Commission in D.16-06-010 OP2 which states:

[11] 1 D.15-09-023, pages 44 to 45.

"If it is successful in identifying one or more water agency partners, San Diego Gas & Electric Company may implement its proposed pilot to assess the feasibility and scalability of utilizing SDG&E's network infrastructure to transmit water usage data. San Diego Gas & Electric Company may not exceed $175,000 per water partner, without seeking approval through a Tier 3 Advice Letter, but may partner with as many water partners as possible, within the funding authorized. Contracts with water partners must be signed within 90 days of a final decision to be included in the pilot. The pilot cost may not exceed $250,000 unless San Diego Gas & Electric Company files and receives approval through a Tier 3 Advice Letter. "

The approved funding of $ 175,000 for this pilot comes from SDG&E's Emerging Technology budget.

SDG&E submitted Advice Letter 2973-E in compliance with D.16-06-010 OP 7 which states:

"Within 30 days of signed agreements with water partners, San Diego Gas & Electric Company and Southern California Gas Company shall each file and serve, by Tier 2 Advice Letter, a Program Implementation Plan, adapted to meet the pilot criteria set forth in the Energy Efficiency Policy Manual v.5., for their approved pilot that includes, but is not limited to, detailed schedules for implementation, proposed budgets, projected savings and cost-effectiveness using the water-energy calculator as applicable, marketing, education, and outreach guidelines, data requirements, measurement and evaluation plan, and control group size."

Advice Letter 2973-E was approved December 5, 2016. The budget for this pilot is part of the 2017 energy efficiency portfolio budget and will be reported in 2017.

SDG&E is partnering with Rainbow Municipal Water District (RMWD) and Itron Corporation (Itron) to implement this Pilot. On August 30, 2016, SDG&E signed a contract with the Rainbow Municipal Water District (RMWD) for a pilot to test SDG&E's Smart Meter Network's capability of successfully receiving data from RMWD's water metering and leak detection devices, such as digital devices owned by RMWD for leak detection and water usage metering after which the data will be delivered to RMWD. This Pilot will be

conducted in RMWD's service territory in northern San Diego County. RMWD is a Special District, organized under Section 71000 of the California Water Code that provides water/sanitation services to the unincorporated communities of Rainbow, Bonsall, and portions of Vista, Oceanside and Fallbrook. The Pilot will test the feasibility of "piggybacking" RMWD water meter data across the SDG&E Smart Meter Network to an Itron hosted analytics system. It will also evaluate the benefits, costs, and value of deploying Smart Meter technology throughout RMWD's service area. The Pilot will investigate new technologies capable of providing secured multitenant network access on two-way communication network infrastructure.

The Pilot will compare Smart Metering with existing manual read metering based on the following measures:

1) meter and billing accuracy;

2) impacts on physical operations; and

3) consumer engagement and acceptance.

3. Energy Matinee Pricing Tariff Pilot Activities

D.16-11-021 approved the Energy Matinee tariff pilot,

"The purpose of these tariffs is to pilot and evaluate the effect of tariffs designed to allow for the shift of energy use by commercial, industrial, and agricultural users to midday when abundant renewable and low-water-using energy are produced at high (and growing) quantities. We accomplish this shift by directly signaling to consumers with an Energy Matinee Pricing Tariff the times when low-water-using energy is more abundant, and demand is currently low. Theaters have long used 'Matinee Pricing' to attract patrons to fill theater seats midday. An Energy Matinee Pricing Tariff addresses the water-energy nexus by better aligning abundant midday energy supply with commercial, industrial, and agricultural electric demand."[12]

The purpose of these pilots is to demonstrate "proof of concept" for the energy

[12] D.16-11-021 at p. 5.

matinee pricing concept and track associated system benefits for both water and energy.[13]

Specifically, the Commission approved SDG&E's proposed hourly dynamic pricing proposal, in which day-ahead pricing from the California Independent System Operator (CAISO) will be used as adders and credits in an hourly rate scheme. The pilot will be limited to SDG&E's PA-T-1 customers, who are predominantly agricultural and water pumping customers. Participation in this pilot will require that customers already have or are willing to procure a customer control system that can accommodate the hourly pricing changes.

The main goal of this pilot is to test high water-using PA-T-1 customers' ability to respond to pricing signals. SDG&E's Energy Matinee Pricing Tariff Pilot will target agricultural and water-pumping customers who are on schedule PA-T-1, with a maximum monthly demand of 500 kilowatt (kW) or more. SDG&E will offer a reduced electricity rate at certain times when demand for electricity is expected to be low. These signals will be sent each day with day-ahead specific hourly pricing. Customers must have a customer control system to receive signals. If customers do not have a control system, SDG&E will provide incentives to provide participants with the required customer control systems. Signals will be sent using the Open ADR 2.0b protocols, or other cost effective protocols that will work with our target markets. The pilot will commence in the Spring of 2018 and end by June 30, 2019.[14]

SDG&E proposed to market the pilot to water pumping and agricultural customers, using multiple techniques, which will include email/mail campaigns, Account Executives meetings, educational workshops, customer site visits, presentations and outreach to sector stakeholders, e.g., San Diego County Water Authority, the Farm Bureau of San Diego, the Flower and Plant Associations.

The forecasted budget is $1.75 million, which will include costs for recruiting customers, educational workshops, email/mail campaigns, customer surveys, procuring and installing control systems at customers' sites and audits and Evaluation, Measurement

[13] D.16-11-021 at p. 18.
[14] Id. at p. 25.

& Verification (EM&V) studies.

SDG&E will evaluate the cost effectiveness of the pilot at the end of the pilot, when the evaluation results will be available. SDG&E will review the applicability of the energy efficiency, demand response and WEN cost effectiveness calculators.

In the analysis, SDG&E will also potentially examine each individual programmatic variable, such as price levels, signaling, and delivery channels. SDG&E will consult with Energy Division staff to refine the EM&V plan. Customer surveys will be used to research the following topics: customers' perspectives on the pilot operations, pricing signals, impact to business operations of shifting loads, convenience of automation, bill savings and other relevant topics. SDG&E will also identify any obstacles to participation from qualified customers that choose not to participate.

Further details are included in SDG&E's Water Energy Nexus Energy Matinee Pricing Tariff Pilot Implementation Plan Advice Letter 3053-E filed March 10, 2017. The advice letter is available at http://regarchive.sdge.com/tm2/pdf/3053-E.pdf. However, SDG&E will be filing a petition for modification to D.16-11-021 that will identify circumstances that would make SDG&E's proposed Matinee Pilot moot.

4. Energy Efficiency WEN Programs and Activities

The table below reflects the 2016 water conservation measures offered under SDG&E's energy efficiency program at the program and measure level.

EE Program Name	Measure	Quantity
3P-Res-Comprehensive Manufactured-Mobile Home	Faucet Aerator	1,218
3P-Res-Comprehensive Manufactured-Mobile Home	Low Flow Showerhead	855
3P-Res-Comprehensive Manufactured-Mobile Home	Thermostatic Valve/Flow Restrict	965
Local-CALS - Middle Income Direct Install (MIDI)	Faucet Aerators	123
Local-CALS - Middle Income Direct Install (MIDI)	Low Flow Showerhead	192
Local-CALS - Middle Income Direct Install (MIDI)	Thermostatic Valve/Flow Restrict	92
SW-CALS-MFEER	Low Flow Showerhead	4,936
SW-CALS-MFEER	Faucet Aerators	4,332
SW-CALS-MFEER	Thermostatic Valve/Flow Restrict	6,674
SW-CALS-Plug Load and Appliances-HEER	Water Saving Kits	93,488
SW-CALS-Plug Load and Appliances-HEER	High Efficiency Clothes Washers	4,194
SW-CALS-Plug Load and Appliances-POS Rebates	High Efficiency Clothes Washers	1,877
SW-COM Direct Install	Low Flow Showerhead	76
SW-COM Direct Install	Super Low Flow Bathroom Aerator	223
SW-COM Direct Install	Pre-Rinse Spray Head	362
SW-COM-Calculated Incentives-Calculated	High Efficiency Dish Washers	1
SW-COM-Deemed Incentives-Commercial Rebates	Low Flow Showerhead	203
SW-COM-Deemed Incentives-Commercial Rebates	Ozone Laundry System	337
Total		**120,148**

5. Energy Savings Assistance WEN Activities

The table below reflects SDG&E's water saving measures and services offered through its Energy Savings Assistance (ESA) Program for program year 2016. SDG&E's ESA Program offers its low income natural gas and electric customers weatherization services, energy efficient lighting, energy efficient appliances, energy education, and other services including water conservation at no cost to the qualified customer.

MEASURES	UNITS INSTALLED
High Efficiency Clothes Washer	389
Low Flow Shower Head	4,887
Faucet Aerator	10,664
Water Heater Repair/Replacement	897
Thermostatic Shower Valve	3,459
Water Education*	8454

*Water Education is a sub-measure of Energy Education. Water Education includes die tabs and shower timers.

6. WEN Outreach Efforts

SDG&E has been working closely with the 24 San Diego County Water Authority members to help promote water conservation tips as well as create distribution channels for the SDG&E water & energy saving kits. In fact, some member agencies were extremely engaged and helped to execute some of the following activities:

- direct distribution of our water & energy saving kits in their offices
- cross-promoting messages on social media
- co-staffing (when available) community outreach events

Highlights include:

- Distribution of water & energy saving kits by member agencies at their offices. Member agencies included: Helix Water District, Fallbrook Public Utility District, City of Carlsbad, and Vallecitos Water District.
- Presentation on Energy Solutions to member agencies
- Cross-promoted the "Live Water Smart" campaign via energy solutions partners
- Collaborated with City of San Diego's water agency to help launch new campaign for low-income customers who need assistance paying their bill.
- Engaged and enrolled customers to take advantage of SDG&E's water & energy saving kits at events.
- Collaborated with the County Water Authority to determine shared outreach at community events. In addition, SD County Water Authority promoted SDG&E programs and services on their website.

R. Other Programs

1. SDGE3288 Customer Relationship Management (CRM)/Energy Efficiency Collaboration Platform (EECP)

Program Description:

No narrative is required; this is a data tracking system and not a program.

2. SDGE3281 EM&V – Evaluation Measurement and Verification

Program Description:

No narrative is required; this is not a program.

SECTION 1 - ENERGY SAVINGS

The purpose of the following table (Table 1) is to report the annual impacts of the energy efficiency portfolio of programs implemented by SDG&E for the 2016 program year. The annual impacts are reported for 2016 in terms of annual and lifecycle energy savings in GWh (Gigawatt hours), annual and lifecycle natural gas savings in MMth (million therms), and peak demand savings in MW (Megawatts). 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 ESA Program and pre-2006 Codes and Standards (C&S) (ESAP and C&S savings are broken out as separate line items in Table 6 - Savings by End-Use).

Table 1.
Electricity and Natural Gas Savings and Demand Reduction (Gross)

Annual Results		2016 Installed Savings	CPUC 2016 Adopted Goals (D.15-10-028)	% of Goals (2016)
2016 Energy Savings (GWh) – Annual				
	SDG&E	346	324	107%
TOTAL Energy Savings (GWh) - Annual				
2016 Energy Savings (GWh) – Lifecycle				
	SDG&E	3,773		
TOTAL Energy Savings (GWh) – Lifecycle				
2016 Natural Gas Savings (MMth) – Annual				
	SDG&E	3.60	3.20	112%
TOTAL Natural Gas Savings (MMth) – Annual				
2016 Natural Gas Savings (MMth) – Lifecycle				
	SDG&E	37		
TOTAL Natural Gas Savings (MMth) – Lifecycle				
2016 Peak Demand savings (MW)				
	SDG&E	93	57	164%
TOTAL Peak Demand savings (MW)				

SECTION 2 - EMISSION REDUCTIONS

The purpose of the following table (Table 2) is to report the annual incremental environmental impacts of the energy efficiency portfolio (for both electricity and natural gas) of programs implemented by SDG&E during the 2016 program year. Parties agreed that the impacts should be in terms of annual and lifecycle tons of CO2, NOX, SOX, and PM10 avoided and should come from the E3 calculator.

Table 2
Environmental Impacts (Gross)

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 SOx avoided[1]	Lifecycle tons of SOx avoided[1]	Annual tons of PM10 avoided	Lifecycle tons of PM10 avoided
2016Portfolio Targets								
SDG&E	351,509	3,877,214	58	667			22	236
2016 Total	**351,509**	**3,877,214**	**58**	**667**			**22**	**236**

Footnote 1: The avoided SOX reductions are not calculated in the cost effectiveness tool (CET.) It was determined that none of the IOUs uses coal power on the margin and the energy efficiency savings have impact on the margin only.

SECTION 3 - EXPENDITURES

The purpose of the following table (Table 3) is to report the annual costs expended by SDG&E in implementing the 2016 energy efficiency portfolio of programs. The report shows the "Total Portfolio Expenditures" broken out into Administrative Costs, Marketing/Advertising/Outreach Costs, and Direct Implementation Costs for the entire portfolio. The next two sets of expenditures represent sub-components of the portfolio already included in the Total Portfolio Expenditures totals: 1) Total Competitive Bid Program Expenditures (sub-component of portfolio); and 2) Total Partnerships Expenditures (sub-component of portfolio). The last component, "Total EM&V Expenditures" (separate from portfolio), will be reported for both SDG&E and "Joint Staff", which reflects ED managed studies.

Table 3: 2016 Expenditures, including expenditures on past cycle commitments paid in 2016.

2016 Expenditures	Administrative Cost (1)						Direct Implementation Non-Incentive			Direct Implementation Incentives & Rebates			PA Administered ME&O (outside the SW ME&O activities)			Adopted 2016 Budget (Decision 14-10-046)
	Non-IOU Implementer			IOU Support												
	10-12 Committed Funds Expenditures	13-15 Committed Funds Expenditures	2016 Expenditures from 2016 Budget	10-12 Committed Funds Expenditure	13-15 Committed Funds Expenditures	2016 Expenditures from 2016 Budget	10-12 Committed Funds Expenditures	13-15 Committed Funds Expenditures	2016 Expenditures from 2016 Budget (2)	10-12 Committed Funds Expenditure	13-15 Committed Funds Expenditures	2016 Expenditures from 2016 Budget	10-12 Committed Funds Expenditures	13-15 Committed Funds Expenditure	2016 Expenditures from 2016 Budget (3)	
IOU Programs	$0	$0	$115,528	$0	$0	$8,867,339	$0	$1,132,446	$15,179,883	$0	$4,911,504	$68,532,523			$1,899,738	$ 73,526,948
Local Government Programs (Partnership Programs)	$0	$0	$330,275	$0	$0	$442,035	$0	$175,382	$5,213,007	$0	$0				$221,425	$ 9,329,675
Third Party Programs (Competitive Bid Program)	$0	$0	$337,213	$0	$0	$299,377	$0	$202,907	$20,509,889	$0	$492,893				$397,607	$ 25,960,810
RENs & CCA (Non-IOU Programs)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0			$0	$0
Subtotal	$0	$0	$783,016	$0	$0	$9,608,751	$0	$1,510,736	$40,902,779	$0	$5,404,398	$68,532,523			$2,518,770	$108,817,433
EM&V - IOU						$660,188										$ 1,280,900
EM&V - Joint Staff				$ 75,951	$2,379,984	$115,148		$0		$0	$0	$0			$0	$ 3,377,411
Total Portfolio	$0	$0	$783,016	$75,951	$2,379,984	$10,384,087	$0	$1,510,736	$40,902,779	$0	$5,404,398	$68,532,523			$2,518,770	$113,475,744
SW ME&O*						$97,642									$3,014,600	$2,973,000
OBF/Revolving Loan Pool*																
Energy Savings Assistance Program (ESA)*																
Total Expenditures			$783,016			$10,481,728			$40,902,779			$68,532,523			$5,533,370	$116,448,744

*Budget dollars outside Portfolio Total

Notes:

(1) The Administrative Cost amount categorized on this Table doesn't parallel how the Administrative cost is categorized on the Quarterly CAP and Target Table. The Administrative cost on the CAP and Target Table recategorizes the Administrative costs associated with the Target Exempt Programs per D.09-09-047 in the Direct Implementation Target Exempt Programs category. In addition the Cap and Target Table includes all Local Program Expenditures (IOU Local and LGP's) in the Local Program Expenditures column which is different than this Table 3.

(2) Committed Funds Expenditures are included in the amount reported in the "2016 Expenditures from 2016 Budget".

SECTION 4 - COST EFFECTIVENESS

The purpose of the following table (Table 4) is to provide an annual update on the cost effectiveness of the energy efficiency portfolio of programs being implemented in the 2016 program year.

Table 4

Cost Effectiveness (Net)

Annual Results	Total Cost to Billpayers (TRC)	Total Savings to Billpayers (TRC)	Net Benefits to Billpayers (TRC)	TRC Ratio	Total PAC Cost	PAC Ratio	PAC Cost per kW Saved ($/kW)[1]	PAC Cost per kWh Saved ($/kWh)	PAC Cost per therm Saved ($/therm)
SDG&E 2016	$ 242,323,860	$ 357,364,320	$ 115,040,460	1.47	$ 130,026,329	2.75		$ 0.06	$ 0.06
[PA] TOTAL	**$ 242,323,860**	**$ 357,364,320**	**$ 115,040,460**	**1.47**	**$ 130,026,329**	**2.75**	**$ -**	**$ 0.06**	**$ 0.06**

Footnote 1: The adopted avoided cost methodology does not provide information to provide a meaningful value for PAC Cost per kW. The adopted avoided cost methodology created kWh costs values that vary for each hour of the year that includes kW generation.

SECTION 5 - RATEPAYER IMPACTS

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

Table 5
Ratepayer Impacts

2016	Electric Average Rate (Res and Non-Res) $/kwh	Gas Average Rate (Core and Non-Core) $/therm	Average First Year Bill Savings ($)	Average Lifecylce Bill Savings ($)
PGE				
SCE				
SDGE	$0.228	$0.587	$ 80,897,555	$ 881,245,096
SCG				
[PA] Average				

SECTION 6 - SAVINGS BY END-USE

The purpose of the following table (Table 6) is to show annual portfolio savings by Residential and Non-Residential end-uses, including those savings attributable to the ESA program and Codes and Standards pre-2006 advocacy work.

Table 6

Annual Savings By End-Use 2016 Only

	GWH	% of Total	MW	% of Total	MMTh = 1,000,000 therms	% of Total
Residential	**72.58**	**20.99%**	**38.52**	**41.32%**	**0.87**	**24.17%**
Appliances	3.70	1.07%	0.66	0.71%	(0.02)	-0.65%
Consumer Electronics	-	0.00%	-	0.00%	-	0.00%
Cooking Appliances	-	0.00%	-	0.00%	-	0.00%
HVAC	25.57	7.39%	32.38	34.74%	0.80	22.32%
Lighting	37.98	10.98%	3.81	4.09%	(0.62)	-17.18%
Pool Pump	5.21	1.51%	1.64	1.76%	-	0.00%
Refrigeration	-	0.00%	-	0.00%	-	0.00%
Water Heating	0.13	0.04%	0.02	0.03%	0.71	19.68%
Other	-	0.00%	-	0.00%	-	0.00%
Nonresidential	**124.92**	**36.13%**	**26.20**	**28.10%**	**1.48**	**41.14%**
HVAC	15.89	4.59%	4.08	4.37%	0.77	21.53%
Lighting	88.63	25.63%	19.16	20.55%	(0.25)	-6.83%
Office	0.24	0.07%	0.00	0.00%	0.01	0.36%
Process	0.25	0.07%	0.02	0.02%	0.03	0.71%
Refrigeration	2.49	0.72%	0.24	0.26%	(0.01)	-0.15%
Water Heating	-	0.00%	-	0.00%	0.03	0.86%
Other	17.43	5.04%	2.70	2.89%	0.89	24.66%
Low Income Energy Efficiency	3.45	1.00%	0.40	0.43%	0.25	6.94%
Codes & Standardss Energy Savings	144.81	**41.88%**	**28.10**	**30.14%**	**1.00**	**27.75%**
SDGE ANNUAL PORTFOLIO SAVINGS (2016)	**345.76**	**100.00%**	**93.22**	**100.00%**	**3.60**	**100.00%**

SECTION 7 - COMMITMENTS

The purpose of the following table (Table 7) is to allow the utilities to report commitments (contractual or incentive commitments that will produce savings after December 2016). 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
Commitments

Commitments Made in the Past with Expected Implementation after December 2010-2012				
	Committed Funds	Expected Energy Savings		
2010-2012[1]	$	GWH	MW	MMth
[PA] Total	$ 1,461,774	0.8	0.1	0.02
Commitments Made in the Past Year with Expected Implementation after December 2015				
	Committed Funds	Expected Energy Savings		
2013-2015[2]	$	GWH	MW	MMth
[PA] Total	$ 10,495,297	30.6	37.2	0.61
Commitments Made in the Past Year with Expected Implementation after December 2016				
	Committed Funds	Expected Energy Savings		
2016 [3]	$	GWH	MW	MMth
[PA] Total	$ 7,328,155	2.60	0.50	0.06

[1] Committed funds are associated with the 2010-2012 program cycle. These funds are reserved or encumbered for future work permitted per Ordering Paragraph 13 and Conclusion of Law 12 of D.12-11-015.

[2] Committed funds are associated with the 2013-2015 program cycle. These funds are reserved or encumbered for future work permitted per the EESTATS CPUC Guidence Document and EE decision (D.15-10-025).

[3] Committed funds are associated with the 2016 program year. These funds are reserved or encumbered for future work permitted per the EESTATS CPUC Guidence Document and EE decision (D.15-10-025).

SECTION 8 - SHAREHOLDER PERFORMANCE INCENTIVES

In accordance with the reporting schedule as adopted in D.13-09-023 dated September 5, 2013 and modified by D.15-10-028 Appendix 5 dated October 28, 2015, current values for the 2016 Efficiency Savings and Performance Incentives (ESPI) have not yet been submitted by the IOUs.

The IOUs will file their respective ESPI advice letters on September 1 of this year. The first ESPI awards claims are expected to be approved by the Commission no later than December 31 of this year. The second 2016 ESPI awards claims will be submitted for approval to the Commission on September 1 of the following year. Therefore, there is no information on earnings presented in this report for the 2016 period.

APPENDIX A - SDG&E 2016 Program Numbers

Program ID	Program Name	Date Added (new programs)	Date Removed
SDGE3201	SW-CALS-Energy Advisor-HEES, UAT	1/1/2013	N/A
SDGE3203	SW-CALS-Plug Load and Appliances-HEER	1/1/2013	N/A
SDGE3204	SW-CALS-Plug Load and Appliances-POS Rebates	1/1/2013	N/A
SDGE3206	SW-CALS-Plug Load and Appliances-ARP (3rd Party)	1/1/2013	4/21/16 AL 2873-E
SDGE3207	SW-CALS-MFEER	1/1/2013	N/A
SDGE3209	SW-CALS - EUC WHRP – Advanced	1/1/2013	N/A
SDGE3211	Local-CALS - Middle Income Direct Install (MIDI) (3rd Party)	8/1/2013	N/A
SDGE3212	SW-CALS – Residential HVAC-QI/QM (3rd Party)	1/1/2013	N/A
SDGE3213	SW-CALS - CAHP/ESMH-CA Advanced Homes	1/1/2013	N/A
SDGE3214	SW-CALS - CAHP/ESMH-E Star Manufactured Homes	1/1/2013	Closed by Advice Letter 2932-E 8/15/16
SDGE3215	SW-COM-Continuous Energy Improvement	1/1/2013	N/A
SDGE3216	SW-COM-Customer Services-Benchmarking	1/1/2013	N/A
SDGE3217	SW-COM-Customer Services- Audits Non-Res	1/1/2013	N/A
SDGE3218	SW-COM-Customer Services-Audits Healthcare Energy Efficiency (HEEP) (3rd Party)	1/1/2013	N/A
SDGE3219	SW-COM-Customer Services-Audits Lodging Energy Efficiency (LEEP) (3rd Party)	1/1/2013	N/A
SDGE3220	SW-COM-Calculated Incentives-Calculated	1/1/2013	N/A
SDGE3221	SW-COM-Calculated Incentives-RCx (3rd Party)	1/1/2013	AL 2951-E/2512-G 9/1/ 2016
SDGE3222	SW-COM-Calculated Incentives-Savings by Design	1/1/2013	N/A
SDGE3223	SW-COM-Deemed Incentives-Commercial Rebates	1/1/2013	N/A
SDGE3224	SW-COM-Deemed Incentives-HVAC Commercial (3rd Party)	1/1/2013	N/A
SDGE3225	SW-COM-Deemed Incentives-HVAC Core	1/1/2013	N/A
SDGE3226	SW-COM Direct Install (3rd Party)	1/1/2013	N/A

Program ID	Program Name	Date Added (new programs)	Date Removed
SDGE3227	SW-IND-Continuous Energy Improvement	1/1/2013	N/A
SDGE3228	SW-IND-Customer Services-Benchmarking	1/1/2013	N/A
SDGE3229	SW-IND-Customer Services-Audits Non-Res	1/1/2013	N/A
SDGE3230	SW-IND-Customer Services-Audits CIEEP (3rd Party)	1/1/2013	N/A
SDGE3231	SW-IND-Calculated Incentives-Calculated	1/1/2013	N/A
SDGE3233	SW-IND-Deemed Incentives	1/1/2013	N/A
SDGE3234	SW-AG-Customer Services-Benchmarking	1/1/2013	N/A
SDGE3235	SW-AG-Customer Services-Pump Test Services (3rd Party)	1/1/2013	N/A
SDGE3236	SW-AG-Customer Services-Audits	1/1/2013	N/A
SDGE3237	SW-AG-Calculated Incentives-Calculated	1/1/2013	N/A
SDGE3239	SW-AG-Deemed Incentives	1/1/2013	N/A
SDGE3240	SW-Lighting-Lighting Market Transformation	1/1/2013	N/A
SDGE3241	SW-Lighting-Lighting Innovation-ETPC MD	1/1/2013	N/A
SDGE3242	SW-Lighting-Lighting Innovation-ETPC Pilots	1/1/2013	N/A
SDGE3243	SW-Lighting-Lighting Innovation-ETPC Advanced LED	1/1/2013	N/A
SDGE3245	SW-Lighting-Primary Lighting	1/1/2013	N/A
SDGE3246	SW-ET-Technology Introduction Support	1/1/2013	N/A
SDGE3247	SW-ET-Technology Assessment Support	1/1/2013	N/A
SDGE3248	SW-ET-Technology Deployment Support	1/1/2013	N/A
SDGE3249	SW C&S - Building Codes & Compliance Advocacy	1/1/2013	N/A
SDGE3250	SW C&S - Appliance Standards Advocacy	1/1/2013	N/A
SDGE3251	SW C&S - Compliance Enhancement	1/1/2013	N/A
SDGE3252	SW C&S - Reach Codes	1/1/2013	N/A
SDGE3253	SW C&S - Planning Coordination	1/1/2013	N/A

Program ID	Program Name	Date Added (new programs)	Date Removed
SDGE3254	SW-WE&T-Centergies	1/1/2013	N/A
SDGE3255	SW-WE&T-Connections	1/1/2013	N/A
SDGE3257	SW-WE&T-Strategic Planning	1/1/2013	N/A
SDGE3259	SW ME&O	1/1/2013	N/A
SDGE3260	Local-IDSM-ME&O-Local Marketing (EE)	1/1/2013	N/A
SDGE3261	Local-IDSM-ME&O-Behavioral Programs (EE)	1/1/2013	N/A
SDGE3262	SW-FIN-On-Bill Finance	1/1/2013	N/A
SDGE3263	SW-FIN-ARRA Originated Financing	1/1/2013	N/A
SDGE3264	SW-FIN-New Finance Offerings CHEEF & Funds Reserved	1/1/2013	N/A
SDGE3266	LInstP-CA Department of Corrections Partnership	1/1/2013	N/A
SDGE3267	LInstP-California Community College Partnership	1/1/2013	N/A
SDGE3268	LInstP-UC/CSU/IOU Partnership	1/1/2013	N/A
SDGE3269	LInstP-State of California /IOU	1/1/2013	N/A
SDGE3270	LInstP-University of San Diego Partnership	1/1/2013	N/A
SDGE3272	LGP- City of Chula Vista Partnership	1/1/2013	N/A
SDGE3273	LGP- City of San Diego Partnership	1/1/2013	N/A
SDGE3274	LGP- County of San Diego Partnership	1/1/2013	N/A
SDGE3275	LGP- Port of San Diego Partnership	1/1/2013	N/A
SDGE3276	LGP- SANDAG Partnership	1/1/2013	N/A
SDGE3277	LGP- SEEC Partnership	1/1/2013	N/A
SDGE3278	LGP- Emerging Cities Partnership	1/1/2013	N/A
SDGE3279	3P-Res-Comprehensive Manufactured-Mobile Home (3rd Party)	1/1/2013	N/A
SDGE3280	3P-IDEA (3rd Party)	1/1/2013	N/A
SDGE3281	EM&V	1/1/2013	N/A
SDGE3282	SW-IDSM-IDSM	1/1/2013	N/A

Program ID	Program Name	Date Added (new programs)	Date Removed
SDGE3288	CRM	1/1/2013	N/A
SDGE3291	SW-Ind-Customer Services-Pump Test Services (3rd Party)	1/1/2013	N/A
SDGE3292	SW-Com-Customer Services-Pump Test Services (3rd Party)	1/1/2013	N/A
SDGE3293	SW-CALS – Residential HVAC-HVAC Core	1/1/2013	N/A
SDGE3296	SW-FIN-New Finance Offerings - Small Bus Lease Off Bill	9/19/2013	N/A
SDGE3297	SW-FIN – New Finance Offerings - Fin Pilot Cr Enhancement SFLP	9/19/2013	N/A
SDGE3298	SW-FIN – New Finance Offerings - Med/Large OBR	9/19/2013	N/A
SDGE3299	SW-FIN – New Finance Offerings - MMMFP OBR	9/19/2013	N/A
SDGE3300	SW-FIN – New Finance Offerings - Small Bus Lease OBR	9/19/2013	N/A
SDGE3301	SW-FIN – New Finance Offerings - Small Bus Loan OBR	9/19/2013	N/A
SDGE3302	SW-CALS - Res Upstream HVAC Equipment Incentive	7/1/2014	N/A
SDGE3303	SW-CALS - Res HVAC Code Compliance Incentive	7/1/2014	N/A
SDGE3306	3P-Res Splash (3rd Party)	8/1/2014	Closed by Advice Letter 2932-E 8/15/16
SDGE3307	3P-Non-Res ZELDA Program (3rd Party)	9/1/2014	N/A
SDGE3308	SW-FIN – New Finance Offerings - Finance ME&O	9/19/2013	N/A
SDGE3309	Sustainable Labs Program	2/10/2015	N/A
SDGE3310	Multifamily Heat Pump Optimizer	3/10/2015	N/A
SDGE3311	3P - Energy Advantage Program EAP	11/25/2015	N/A
SDGE3312	SW-FIN – New Finance Offerings - Finance Pilot IT Support	9/19/2013	N/A
SDGE3313	Locational Energy Efficiency Program	8/10/2015	N/A
SDGE3317	HOPP RcX	Approved by Advice Letter 2864-E-A 7/27/16	N/A
SDGE3318	HOPP Multi Family	Approved by Advice Letter 2865-E-C 9/18/16	N/A

Program ID	Program Name	Date Added (new programs)	Date Removed
SDGE3324	Water Energy Nexus (WEN)	4/21/17	N/A

APPENDIX B - Updated December 2016 Monthly Report

In accordance with R.09-11-014 issued on December 22, 2011, Attachment B, II.a, "The following reports are no longer submitted by the utilities in 2010-2012: E3 output sheets, Quarterly Narratives, and Quarterly Spreadsheets." Updated Quarterly Spreadsheets are not included in this report.

http://eestats.cpuc.ca.gov/Views/Documents.aspx

San Diego Gas & Electric Company
2016 Monthly Energy Efficiency Program Report
Report Month: December 2016

Table 1: 2016 San Diego Gas & Electric Company Monthly Summary Table

San Diego Gas & Electric Company Program Definition Table												Past Cycle Committed Funds [1]						2016 Budget ($)						Expenses ($)				Energy Savings (Gross Annual kWh)					Demand Reduction (Gross Summer Peak kW)					Gas Savings (Gross Annual Therms)				
																			Unspent Carryover																							
Program ID	Program Name	Cycle	IOU	Leave Blank	Program Implementor	Target Market	Program Category	Program Type	Measure Impact Type	Custom Upload (0 or 1)	10-12 Beginning Committed Funds Account	10-12 Committed Funds Expenditures (Year-to-Date)	10-12 Committed Funds Balance	13-15 Beginning Committed Funds Account	13-15 Committed Funds Expenditures (Year-to-Date)	13-15 Committed Balance	2016 Program Budget (D.16-10-028)	10-12 Unspent Carryover	13-15 Unspent Carryover	2016 Executed Fund Shifts	Committed Carryover Funds (Placeholder for 2017) [2]	2016 Revised Program Operating Budget (includes Prior Cycle Committed Funds Expenditures)	2016 Program Expenditures (Report Month)	2016 Program Expenditures (Year-To-Date)	Total Incentive Payments (Year-to-Date)	Remaining Budget Balance as of Report Month	2016 Program Projected	Installed Savings (Cycle-to-Date) [3]	Installed Savings (Year-to-date)	Installed Savings (Report Month)	Uninstalled Savings Commitments (Year-to-Date)	2016 Program Projected	Installed Savings (Cycle-to-Date) [3]	Installed Savings (Year-To-Date)	Installed Savings (Report Month)	Uninstalled Savings Commitments (Year-to-Date)	2016 Program Projected	Installed Savings (Cycle-to-Date) [3]	Installed Savings (Year-To-Date)	Installed Savings (Report Month)	Uninstalled Savings Commitments (Year-to-Date)
	SW CALSPREE																																								
SDGE3201	SW-CALS-Energy Advisor-HEES, UAT	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 357,988	$ -	$ -	$ (82,315)	$ -	$ 275,673	$ 67,825	$ 275,673	$ -	$ (0)															
SDGE3203	SW-CALS-Plug Load and Appliances-HEER	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,410,558	$ -	$ -	$ (1,913,380)	$ -	$ 4,497,178	$ 1,029,137	$ 4,497,180	$ -	$ (2)	11,253,334	5,712,557	5,712,557	1,980,014	-	3,054	1,703	1,703	578	-	709,495	690,576	690,576	128,781	-
SDGE3204	SW-CALS-Plug Load and Appliances-POS Rebates	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,094,782	$ -	$ -	$ (729,525)	$ -	$ 365,257	$ 125,342	$ 365,256	$ -	$ 1	677,650	275,219	275,219	47,327	-	368	47	47	9	-	87,789	32,061	32,061	8,558	-
SDGE3207	SW-CALS-MFEER	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,765,678	$ -	$ -	$ 660,000	$ -	$ 4,425,678	$ 608,142	$ 4,675,926	$ -	$ (249,828)	3,643,083	3,290,825	3,290,825	357,037	-	556	647	647	54	-	(23,254)	18,149	18,149	4,500	-
SDGE3209	SW-CALS - EUC WHRP - Advanced	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource	Deemed and Custom Impact	1	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,373,158	$ -	$ -	$ 1,833,188	$ -	$ 4,206,346	$ 909,073	$ 4,198,181	$ -	$ 8,165	857,644	1,272,332	1,272,332	439,155	-	314	856	856	390	-	28,049	48,742	48,742	17,372	-
SDGE3213	SW-CALS - CAHP/ESMH-CA Advanced Homes	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	New Construction	Resource	Custom Impacts	1	$ -	$ -	$ -	$ 188,317	$ 178,164	$ 10,153	$ 1,838,307	$ -	$ -	$ 178,164	$ 550,000	$ 2,566,471	$ 232,050	$ 2,149,164	$ 417,307	$ 417,307	883,316	1,172,985	1,172,985	565,454	-	651	557	557	203	-	46,194	60,909	60,909	26,034	-
SDGE3214	SW-CALS - CAHP/ESMH-E Star Manufactured Homes									1											1,655		1,655	(1,101)	1,655	-																
SDGE3302	SW-CALS - RESIDENTIAL HVAC UPSTREAM	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource			$ -	$ -	$ -	$ -	$ -	$ -	$ 206,799	$ -	$ -	$ (78,934)	$ -	$ 127,865	$ 29,992	$ 127,865	$ -	$ 0	9,016	3,183	3,183	1,594	-	8	6	6	3	-	(11)	2,367	2,367	545	-
SDGE3303	SW-CALS - HVAC TO CODE COMPLIANCE	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource			$ -	$ -	$ -	$ -	$ -	$ -	$ 181,277	$ -	$ -	$ (100,779)	$ -	$ 80,498	$ 19,821	$ 80,498	$ -	$ 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3293	SW-CALS – Residential HVAC-HVAC Core	2016	SDGE	RESIDENTIAL	IOU Core/Statewide	RESIDENTIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 161,882	$ -	$ -	$ 113,090	$ -	$ 274,972	$ 253,474	$ 274,972	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SW COMMERCIAL																																								
SDGE3215	SW-COM-Continuous Energy Improvement	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 7,266	$ 2,030	$ 5,236	$ 255,616	$ -	$ -	$ 1,015	$ (103,916)	$ -	$ 152,715	$ 34,164	$ 152,715	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3216	SW-COM-Customer Services-Benchmarking	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 67,686	$ -	$ -	$ -	$ (12,236)	$ 55,450	$ 4,705	$ 55,450	$ -	$ 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3217	SW-COM-Customer Services- Audits NonRes	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 367,152	$ 348,837	$ 18,316	$ 1,369,092	$ -	$ -	$ 348,837	$ (1,114,696)	$ 603,232	$ 50,908	$ 603,232	$ -	$ 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3220	SW-COM-Calculated Incentives-Calculated	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	Customized Retrofit	Resource	Deemed and Custom Impact	1	$ 250,857	$ -	$ 250,857	$ 3,146,823	$ 196,661	$ 2,950,162	$ 4,031,116	$ -	$ -	$ 196,661	$ (1,352,936)	$ 2,874,841	$ 442,321	$ 2,874,842	$ -	$ (1)	11,630,694	5,396,886	5,396,886	1,308,108	-	1,796	878	878	285	-	364,800	453,635	453,635	162	-
SDGE3222	SW-COM-Calculated Incentives-Savings by Design	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	New Construction	Resource	Custom Impacts	1	$ -	$ -	$ -	$ 1,670,890	$ 1,162,960	$ 507,930	$ 4,574,293	$ -	$ -	$ 1,162,960	$ (2,200,009)	$ 3,537,253	$ 505,103	$ 3,441,788	$ 95,466	$ 95,465	15,986,191	17,844,205	17,844,200	5,695,027	-	3,210	2,936	2,936	1,098	-	1,708	372,877	372,877	266,324	-
SDGE3223	SW-COM-Deemed Incentives-Commercial Rebates	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ 2,966,281	$ 2,966,281	$ -	$ 11,468,889	$ -	$ -	$ 2,966,281	$ 28,330,736	$ 42,765,906	$ 11,419,845	$ 42,960,956	$ -	$ (195,050)	27,905,624	54,605,616	54,605,616	19,140,549	-	5,126	11,479	11,479	4,378	-	2,565	211,706	211,706	(18,475)	-
SDGE3225	SW-COM-Deemed Incentives-HVAC Core	2016	SDGE	COMMERCIAL	IOU Core/Statewide	COMMERCIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 280,493	$ -	$ -	$ -	$ (243,722)	$ 36,771	$ (63,229)	$ (113,229)	$ -	$ 150,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SW INDUSTRIAL																																								
SDGE3227	SW-IND-Continuous Energy Improvement	2016	SDGE	INDUSTRIAL	IOU Core/Statewide	INDUSTRIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 255,965	$ -	$ 1,015	$ (125,858)	$ -	$ 131,122	$ 15,704	$ 107,335	$ -	$ 23,787	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3228	SW-IND-Customer Services-Benchmarking	2016	SDGE	INDUSTRIAL	IOU Core/Statewide	INDUSTRIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,224	$ -	$ -	$ (16,376)	$ -	$ 10,848	$ 720	$ 10,849	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3229	SW-IND-Customer Services-Audits NonRes	2016	SDGE	INDUSTRIAL	IOU Core/Statewide	INDUSTRIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 464,798	$ -	$ -	$ -	$ (341,607)	$ 123,191	$ 25,041	$ 123,191	$ -	$ 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3231	SW-IND-Calculated Incentives-Calculated	2016	SDGE	INDUSTRIAL	IOU Core/Statewide	INDUSTRIAL	Customized Retrofit	Resource	Deemed and Custom Impact	1	$ -	$ -	$ -	$ 492,402	$ 100,047	$ 392,355	$ 1,673,221	$ -	$ -	$ 100,047	$ (1,165,491)	$ 607,778	$ 147,530	$ 554,277	$ 53,500	$ 53,500	4,503,410	538,810	538,810	538,810	-	709	61	61	61	-	61,974	-	-	-	-
SDGE3233	SW-IND-Deemed Incentives	2016	SDGE	INDUSTRIAL	IOU Core/Statewide	INDUSTRIAL	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ 307,392	$ 307,392	$ -	$ 801,168	$ -	$ -	$ 307,392	$ 2,099,332	$ 3,207,891	$ 738,730	$ 3,167,928	$ -	$ 39,963	728,205	2,794,100	2,794,100	1,293,157	-	149	585	585	275	-	24,160	48,434	48,434	30,682	-
	SW AGRICULTRIAL																																								
SDGE3234	SW-AG-Customer Services-Benchmarking	2016	SDGE	AGRICULTURA	IOU Core/Statewide	GRICULTURA	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 22,988	$ -	$ -	$ -	$ (9,024)	$ 13,964	$ 672	$ 9,484	$ -	$ 4,480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3236	SW-AG-Customer Services-Audits	2016	SDGE	AGRICULTURA	IOU Core/Statewide	GRICULTURA	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 106,104	$ -	$ -	$ -	$ (87,512)	$ 18,592	$ 2,356	$ 18,592	$ -	$ 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3237	SW-AG-Calculated Incentives-Calculated	2016	SDGE	AGRICULTURA	IOU Core/Statewide	GRICULTURA	Customized Retrofit	Resource	Deemed and Custom Impact	1	$ -	$ -	$ -	$ -	$ -	$ -	$ 180,255	$ -	$ -	$ -	$ (65,981)	$ 114,274	$ 27,695	$ 114,274	$ -	$ (0)	440,261	-	-	-	-	88	-	-	-	-	8,397	-	-	-	-
SDGE3239	SW-AG-Deemed Incentives	2016	SDGE	AGRICULTURA	IOU Core/Statewide	GRICULTURA	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 386,231	$ -	$ -	$ -	$ 274,517	$ 660,748	$ 370,547	$ 660,747	$ -	$ 1	258,808	321,301	321,301	79,017	-	62	65	65	19	-	151,181	119,280	119,280	(242)	-
	SW Lighting																																								
SDGE3240	SW-Lighting-Lighting Market Transformation	2016	SDGE	Cross-cutting	IOU Core/Statewide	Cross-cutting	Deemed Hardware Rebates	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 68,487	$ -	$ -	$ -	$ (24,727)	$ 43,760	$ -	$ 43,760	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3241	SW-Lighting-Lighting Innovation [4]	2016	SDGE	Cross-cutting	IOU Core/Statewide	Cross-cutting	Deemed Hardware Rebates	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 1,302,923	$ -	$ 695,238	$ 607,685	$ 200,757	$ -	$ -	$ 695,238	$ 24,727	$ 920,726	$ 591,750	$ 966,065	$ -	$ (45,339)	-	477,600	477,600	477,600	-	-	49	49	49	-	-	(8,129)	(8,129)	(8,129)	-
SDGE3245	SW-Lighting-Primary Lighting	2016	SDGE	Cross-cutting	IOU Core/Statewide	Cross-cutting	Deemed Hardware Rebates	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,994,117	$ -	$ -	$ -	$ 3,210,000	$ 9,204,117	$ 1,238,709	$ 8,897,281	$ -	$ 306,836	29,313,037	41,431,118	41,431,118	13,394,525	-	3,532	5,358	5,358	1,613	-	(453,858)	(609,766)	(609,766)	(208,653)	-
	Local Partnerships																																								
SDGE3266	LInstP-CA Department of Corrections Partnership	2016	SDGE	LGP	Local Government Partne	Institutional	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 78,865	$ -	$ -	$ -	$ (8,600)	$ 70,265	$ 23,990	$ 70,265	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3267	LInstP-California Community College Partnership	2016	SDGE	LGP	Local Government Partne	Colleges	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 413,888	$ -	$ -	$ -	$ (244,731)	$ 169,157	$ (25,203)	$ 169,157	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3268	LInstP-UC/CSU/IOU Partnership	2016	SDGE	LGP	Local Government Partne	Colleges	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 582,270	$ -	$ -	$ -	$ (178,108)	$ 404,162	$ 176,887	$ 404,162	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3269	LInstP-State of California /IOU	2016	SDGE	LGP	Local Government Partne	Nonresidential	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 260,535	$ -	$ -	$ -	$ (207,734)	$ 52,801	$ 14,390	$ 52,801	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3270	LInstP-University of San Diego Partnership	2016	SDGE	LGP	Local Government Partne	Colleges	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 96,808	$ 96,808	$ -	$ 636,455	$ -	$ -	$ 96,808	$ (59,167)	$ 674,096	$ 101,375	$ 490,431	$ -	$ 183,665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3271	LGP- San Diego County Water Authority Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 418,479	$ -	$ -	$ -	$ (133,000)	$ 285,479	$ 43,531	$ 93,184	$ -	$ 192,295	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3272	LGP- City of Chula Vista Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,708,121	$ -	$ -	$ -	$ (88,403)	$ 1,619,718	$ 329,407	$ 1,081,759	$ -	$ 537,999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3273	LGP- City of San Diego Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 195,281	$ 45,272	$ 150,010	$ 1,667,944	$ -	$ -	$ 45,272	$ (135,816)	$ 1,577,400	$ 288,222	$ 1,185,211	$ -	$ 382,189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3274	LGP- County of San Diego Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,119,760	$ -	$ -	$ -	$ (6,502)	$ 1,113,258	$ 248,195	$ 1,092,231	$ -	$ 21,027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3275	LGP- Port of San Diego Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 827,931	$ -	$ -	$ -	$ 6,372	$ 834,303	$ 230,979	$ 736,097	$ -	$ 98,206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3276	LGP- SANDAG Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,084,429	$ -	$ -	$ -	$ (33,541)	$ 1,050,888	$ 153,388	$ 505,331	$ -	$ 545,557	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3277	LGP- SEEC Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 25,327	$ 25,327	$ -	$ 368,106	$ -	$ -	$ 25,327	$ (55,105)	$ 238,327	$ (113,329)	$ 238,327	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3278	LGP- Emerging Cities Partnership	2016	SDGE	LGP	Local Government Partne	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 7,976	$ 7,976	$ -	$ 272,692	$ -	$ -	$ 7,976	$ (193,043)	$ 87,625	$ 4,270	$ 87,625	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SW Emerging Technologies																																								
SDGE3246	SW-ET-Technology Introduction Support	2016	SDGE	Cross-cutting	IOU Core/Statewide	Cross-cutting	Workforce Education and Traini	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 432,832	$ -	$ -	$ -	$ -	$ 432,832	$ 201,984	$ 428,375	$ -	$ 4,457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3247	SW-ET-Technology Assessment Support	2016	SDGE	Cross-cutting	IOU Core/Statewide	Cross-cutting	Workforce Education and Traini	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 737,262	$ -	$ -	$ -	$ -	$ 737,262	$ 51,192	$ 732,454	$ -	$ 4,808	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3248	SW-ET-Technology Deployment Support	2016	SDGE	Cross-cutting	IOU Core/Statewide	Cross-cutting	Workforce Education and Traini	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 199,976	$ -	$ -	$ -	$ -	$ 199,976	$ 41,429	$ 193,562	$ -	$ 6,414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SW Finance																																								
SDGE3262	SW-FIN-On-Bill Finance	2016	SDGE	Financing	IOU Core/Statewide	Commercial	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 299,526	$ -	$ -	$ (46,378)	$ -	$ 253,148	$ 21,954	$ 215,085	$ -	$ 38,063	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3264	SW-FIN-New Finance Offerings	2016	SDGE	Financing	IOU Core/Statewide	Cross Cutting	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 69,202	$ -	$ -	$ -	$ -	$ 69,202	$ 80,117	$ 81,225	$ -	$ (12,023)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3296	SW-Small Bus Lease Off Bill	2016	SDGE	Financing	IOU Core/Statewide	Commercial	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 69,229	$ -	$ -	$ -	$ (9,581)	$ 59,668	$ 37,118	$ 53,556	$ -	$ 6,112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3297	SW-SFLP	2016	SDGE	Financing	IOU Core/Statewide	Residential	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 742,361	$ -	$ -	$ -	$ (258,219)	$ 484,142	$ 37,255	$ 51,138	$ -	$ 433,004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3298	SW-Med/Large OBR	2016	SDGE	Financing	IOU Core/Statewide	Commercial	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 77,860	$ -	$ -	$ -	$ (15,789)	$ 62,071	$ 37,113	$ 54,994	$ -	$ 7,077	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3299	SW-MMMFP OBR	2016	SDGE	Financing	IOU Core/Statewide	Residential	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 226,108	$ -	$ -	$ -	$ (165,537)	$ 60,571	$ 38,407	$ 52,673	$ -	$ 7,898	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3300	SW-Small Bus Lease OBR	2016	SDGE	Financing	IOU Core/Statewide	Commercial	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 69,229	$ -	$ -	$ -	$ (8,077)	$ 61,152	$ 37,116	$ 54,978	$ -	$ 6,174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3301	SW-Small Bus Loan OBR	2016	SDGE	Financing	IOU Core/Statewide	Commercial	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 69,229	$ -	$ -	$ -	$ (8,414)	$ 60,815	$ 37,052	$ 54,121	$ -	$ 6,694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3308	SW-ME&O	2016	SDGE	Financing	IOU Core/Statewide	Cross Cutting	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,379,962	$ -	$ -	$ -	$ -	$ 1,379,962	$ 15,535	$ 234,033	$ -	$ 1,145,929	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3312	Finance IT OBR	2016	SDGE	Financing	IOU Core/Statewide	Cross Cutting	Financing	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 647,634	$ -	$ -	$ -	$ -	$ 647,634	$ 62,137	$ 983,690	$ -	$ (336,056)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SW Codes and Standards																																								
SDGE3249	SW C&S - Building Codes & Compliance Advocacy	2016	SDGE	C&S	IOU Core/Statewide	Cross-cutting	Codes and Standards	Resource	Deemed Impacts	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 314,689	$ -	$ 14,306	$ 323,101	$ (100,000)	$ 228,995	$ 23,412	$ 197,869	$ -	$ 31,125	143,000,000	144,811,596	144,811,596	12,067,633	-	33,207	28,098	28,098	2,342	-	600,000	998,037	998,037	83,170	-
SDGE3250	SW C&S - Appliance Standards Advocacy	2016	SDGE	C&S	IOU Core/Statewide	Cross-cutting	Codes and Standards	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 329,421	$ -	$ -	$ -	$ 220,000	$ 549,421	$ 34,130	$ 168,549	$ -	$ 380,872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3251	SW C&S - Compliance Enhancement	2016	SDGE	C&S	IOU Core/Statewide	Cross-cutting	Codes and Standards	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ 129,720	$ 19,800	$ 109,920	$ 293,208	$ -	$ -	$ 19,800	$ (120,005)	$ 193,008	$ 33,051	$ 143,311	$ -	$ 49,697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3252	SW C&S - Reach Codes	2016	SDGE	C&S	IOU Core/Statewide	Cross-cutting	Codes and Standards	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 49,501	$ -	$ -	$ -	$ -	$ 49,501	$ (347)	$ 36,345	$ -	$ 13,156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3253	SW C&S - Planning Coordination	2016	SDGE	C&S	IOU Core/Statewide	Cross-cutting	Codes and Standards	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 56,598	$ -	$ -	$ -	$ -	$ 56,598	$ (199)	$ 51,618	$ -	$ 4,780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Integrated Demand Side Management																																								
SDGE3260	Local-IDSM-ME&O-Local Marketing (EE)	2016	SDGE	IDSM	IOU Core/Statewide	Cross-cutting	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,123,585	$ -	$ -	$ 50,609	$ -	$ 1,174,194	$ 343,036	$ 1,143,168	$ -	$ 31,027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3261	Local-IDSM-ME&O-Behavioral Programs (EE)	2016	SDGE	IDSM	IOU Core/Statewide	RESIDENTIAL	Market Education Outreach	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,983,582	$ -	$ -	$ (2,556,041)	$ -	$ 2,427,540	$ 173,543	$ 2,427,545	$ -	$ (1)	28,598,150	21,653,424	21,653,424	21,653,424	-	-	29,527	29,527	29,527	-	530,250	647,498	647,498	647,498	-
SDGE3282	SW-IDSM-IDSM	2016	SDGE	IDSM	IOU Core/Statewide	Cross-cutting	Integrated Demand-Side Manag	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ 15,000	$ 15,000	$ 395,958	$ -	$ -	$ 15,000	$ (120,483)	$ 290,475	$ 34,551	$ 290,475	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SW Workforce Education and Training																																								
SDGE3254	SW-WE&T-Centergies	2016	SDGE	WET	IOU Core/Statewide	Cross-cutting	Workforce Education and Traini	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,066,030	$ -	$ -	$ (705,787)	$ -	$ 3,360,243	$ 611,333	$ 3,360,245	$ -	$ (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDGE3255	SW-WE&T-Connections	2016	SDGE	WET	IOU Core/Statewide	Cross-cutting	Workforce Education and Traini	Non-Resour	Not Applicable	0	$ -	$ -	$ -	$ -	$ -	$ -	$ 834,000	$ -	$ -	$ (37,937)	$ -	$ 796,063	$ 194,227	$ 796,063	$ -	$ (0)	-	-	-	-	-	-	-	-	-	-

San Diego Gas & Electric Company
2016 Monthly Energy Efficiency Program Report
Report Month: December 2016

Data do include Codes and Standards, but **do not** include Low Income Energy Efficiency.

Table 2: 2016 San Diego Gas & Electric Company Portfolio Costs

2016 Adopted Portfolio Budget	$	116,448,745
2016 Revised Portfolio Budget (Includes Unspent Carryover Funds)	$	137,192,579
Portfolio Expenditures (Year-to-Date)	$	126,197,571
Portfolio Expenditures (Report Month)	$	26,370,500
Portfolio 2016 Incentive Commitments (Year-To-Date)	$	566,273

Table 3: 2016 San Diego Gas & Electric Company Portfolio Impacts - Annual

	Annual Goals (D.15-10-028)	Annual Installed Savings (Year-to-Date)	Annual Installed Savings (% of Annual Goals)
	2016	2016	2016
Energy Savings (Gross Annual kWh)	324,000,000	345,761,167	107%
Demand Reduction (Gross Summer Peak kW)	57,000	93,218	164%
Gas Savings (Gross Annual Therms)	3,200,000	3,596,770	112%

Table 4: 2016 San Diego Gas & Electric Company Portfolio Impacts - Aggregated End Use - Year to Date

	Energy Savings (Gross Annual kWh)	Demand Reduction (Gross Summer Peak kW)	Gas Savings (Gross Annual Therms)
Residential	**72,579,591**	**38,517**	**869,446**
Appliances	3,695,236	659	(23,436)
Consumer Electronics	-	-	-
Cooking Appliances	-	-	-
HVAC	25,567,345	32,385	802,880
Lighting	37,978,793	3,814	(617,889)
Pool Pump	5,206,368	1,637	-
Refrigeration	-	-	-
Water Heating	131,849	23	707,891
Other	-	-	-
Nonresidential	**124,923,119**	**26,198**	**1,479,705**
HVAC	29,757,264	6,583	1,267,445
Lighting	88,627,183	19,161	(245,715)
Office	241,315	1	13,058
Process	1,332,918	144	46,647
Refrigeration	2,489,967	240	(5,464)
Other	2,474,473	69	403,733
Energy Assistance Savings Program	**3,446,861**	**405**	**249,582**
Codes & Standards	**144,811,596**	**28,098**	**998,037**
Total Energy Efficiency Portfolio	**345,761,167**	**93,218**	**3,596,770**

Table 5: 2016 San Diego Gas & Electric Company Portfolio Impacts - Market Sector Year to Date

	Energy Savings (Gross Annual kWh)	Demand Reduction (Gross Summer Peak kW)	Gas Savings (Gross Annual Therms)
Residential	**72,579,591**	**38,517**	**869,446**
Single Family	66,433,002	36,642	862,871
Multi Family	3,290,825	647	18,149
Mobile Homes	2,855,763	1,228	(11,574)
Nonresidential	**124,923,119**	**26,198**	**1,479,705**
Commercial	121,268,908	25,486	1,311,991
Industrial	3,332,911	647	48,434
Agricultural	321,301	65	119,280
Energy Assistance Savings Program	**3,446,861**	**405**	**249,582**
Codes & Standards	**144,811,596**	**28,098**	**998,037**
Total Energy Efficiency Portfolio	**345,761,167**	**93,218**	**3,596,770**