BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking into Policies to Promote a Partnership Framework between Energy Investor Owned Utilities and the Water Sector to Promote Water Energy Nexus Programs.	Rulemaking 13-12-011

SAN DIEGO GAS & ELECTRIC COMPANY (U 902 M)
ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT 2018 RESULTS

PUBLIC VERSION

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Pursuant to the *Administrative Law Judge's Ruling Adopting Annual Reporting Requirements for Energy Efficiency and Addressing Related Reporting Issues*, dated August 8, 2007, San Diego Gas & Electric Company ("SDG&E") hereby submits its Annual Report for 2018 Energy Efficiency programs and accomplishments. This 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 addresses the various energy efficiency activities and results affecting water use, activities authorized as part of the water-energy nexus, and other programs that impact water use across the energy efficiency portfolio, as well as energy and water savings, and spending resulting from these activities, as required by Decision (D.") 16-06-010 Ordering Paragraph ("OP") 9. This Annual Report also includes Performance Metrics and 2018 performance results as required in D.18-05-041 OP 9.

Finally, consistent with D.18-01-004 OP 8, SDG&E is filing and serving confidential and public versions of the report showing current third-party-program contracts. SDG&E's Annual Report and associated documents are also uploaded and available for viewing on the California Public Utilities Commission's data systems: (1) California Energy Data and Reporting System (CEDARS) website; and (2) California Energy Efficiency Statistics (EESTATs).

Respectfully submitted,

By: */s/ Stacy Van Goor*
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SDGE

A Sempra Energy utility

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EXECUTIVE SUMMARY

San Diego Gas & Electric Company (SDG&E) remains committed to energy efficiency and helping its customers manage their energy costs as their trusted energy advisor through a diverse suite of innovative program offerings. SDG&E's energy efficiency portfolio is designed to promote the objectives of the California Long-Term Energy Efficiency Strategic Plan (Strategic Plan) adopted by the California Public Utilities Commission (CPUC or Commission) and SDG&E's Energy Efficiency Business Plan, which was approved by the CPUC in 2018.

SDG&E's energy efficiency program portfolio achieved substantial annual energy savings under the guiding principles of innovation, integration, and comprehensiveness. Over the past year, SDG&E's efforts saved approximately 441 gigawatt hours, reduced energy demand by approximately 131 megawatts, and saved approximately 1.38 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 approximately 140 thousand tons, the equivalent of removing approximately 27 thousand cars from the road in support of the State's goal of reducing greenhouse gas (GHG) emissions.[1] SDG&E's portfolio was cost effective with a Total Resource Cost (TRC) ratio of 1.73 resulting in net benefits to customers of over $177 million and a potential of approximately $105 million in customer bill savings.

SDG&E continues to enhance its portfolio offerings to make it easier for customers, stakeholders and vendors to engage with and participate in energy efficiency programs. Introducing point of sale and instant rebates are examples of how SDG&E is working to significantly improve the customer experience by not requiring customers and/or project sponsors to apply for rebates separately from the purchase of qualifying products.

In 2018, SDG&E made significant improvements to its programs for Residential customers to make it easier for everyone to participate. The Plug Load & Appliance (PLA) Point of Sale program saw a substantial expansion of midstream and upstream

[1] See EPA Calculator at https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

participation through the addition of several new big box retailers for smart thermostat instant rebates. This allowed for an easy and seamless customer experience. SDG&E proudly became one of the first utilities in the United States to offer a validated point of sale (in-store) rebate for smart thermostats. The utility's approach to program delivery leveraged technology and partnerships, resulting in more cost-effective residential measures and an increase in rebate redemptions. The focus on technology for PLA also allowed for streamlining of the downstream PLA-Home Energy Efficiency Rebates (HEER) subprogram. In 2018, SDG&E streamlined the rebate application process, allowing customers to easily apply for and access rebates through a new rebate portal with a seamless look and feel to the utility website, www.sdge.com.

SDG&E's efforts to educate customers via online tools continued in 2018 through a variety of programs, including the IDSM Behavioral program (Home Energy Report or HER), our online Marketplace, and the Energy Advisor – Home Energy Efficiency Survey (HEES) and Universal Audit Tool (UAT) programs. In 2018, the behavioral report was regularly delivered to over 650,000 customers. The related HER online platform experience was upgraded in late 2018 to a new user interface, which is a significant improvement in user experience. The platform promotes energy audits so that customers receive more accurate home comparisons. A complementary energy audit is offered through My Account and the HEES program, allowing all customers to understand how they use energy on whichever platform they prefer. Finally, through Marketplace, customers are able to review and directly purchase energy efficiency products.

In 2018, SDG&E continued to drive energy efficiency within the multifamily market segment through the use of the multifamily Single Point of Contact (SPOC). This program, directed by the Commission in the the low income proceeding, has been integral to overcoming many barriers of the multifamily property market. The SPOC serves to link energy efficiency program incentives with those incentives offered through the low income programs. In particular, SDG&E launched the Energy Savings Assistance "Common Area Measures" (ESA-CAM) initiative in 2018, which was directed out of the low income proceeding. The SDG&E SPOC developed specialized internal procedures to enroll new

eligible customers, qualify properties for all relevant programs, and then help provide technical assistance for all programs for which they qualify. This successfully draws together all energy efficiency offerings as well as the income-qualified services available to multifamily property owners and tenants for a true 'one-stop shop'. SDG&E continues to increase participation in energy efficiency while successfully serving the interests of low income and disadvantaged communities through this combined promotion of programs offered by its energy efficiency and low income programs.

In 2018, SDG&E continued to offer a variety of energy efficiency offerings to its non-residential customers. The transition of SDG&E's non-residential lighting offerings to a midstream delivery channel in 2017 allowed for an immediate integration of new statewide lighting requirements into the program. The program experienced a significant expansion in reach through its large and growing network of distributors during the first full year of the program.

Integrated Demand Side Management (IDSM) efforts continued to provide demand response enabled programmable communicating thermostats to both residential and commercial customers. SDG&E also worked with its non-residential customers, such as schools, local government agencies, and others, to develop integrated projects which combine energy efficiency measures and equipment with demand response programs and solar photovoltaic (PV) projects, enabling these customers to meet their own greenhouse gas (GHG) reduction targets and to reach at or near Zero Net Energy (ZNE). SDG&E provided integrated audits for residential as well as small, medium, and large non-residential customers. Delivery of IDSM marketing and outreach efforts continued throughout the year.

SDG&E continued its tradition of recognizing successful customer projects through its annual Energy Showcase awards. In 2018, the Excellence in Energy Leadership awards were reshaped to include the five sectors in SDG&E's Energy Efficiency Business Plan: commercial, industrial, residential, public and agricultural. This reorganization of the annual Energy Showcase allowed SDG&E to recognize the energy efficiency leadership of more customers within the service territory. These customers serve as models to others in

the community and to further encourage their peers to aspire to make similar improvements, as they have implemented meaningful and comprehensive energy efficiency, demand response, energy innovative, green practice improvements to their operations. The 12 Excellence in Energy Leadership 2018 winners by sector are:

- Commercial: Event Network, LLC, Jackie Robinson Family YMCA
- Industrial: BAE Systems San Diego Ship Repair, Dr. Bronner's
- Agriculture: Go Green Agriculture, Inc.
- Public: City of Chula Vista, Port of San Diego, Customs & Border Protection, K-12 Schools Sustainability Collaborative
- Residential: Atmosphere, a Community of Wakeland Housing & Development Corporation, Sorrento Tower by the RAHD Group, Simple Construct.

More information on the 2018 Energy Showcase awardees can be found at www.sdge.com/es2018.

In 2018, SDG&E continued to support the energy efficiency efforts of its local government and institutional partnerships. SDG&E's partners reduce energy consumption within their own facilities and operations, increasing awareness of energy efficiency opportunities for customers through a variety of program offerings. In 2018, partnership activities continued to focus on climate action planning activities, which emphasize energy efficiency and other climate related goals.

SDG&E's energy efficiency programs are set to become a bigger part of the solution toward achieving the State's aggressive energy efficiency goals. SDG&E's Energy Efficiency Business Plan, which was approved in Decision 18-05-041 on May 31, 2018, identifies an unprecedented path forward to achieving zero net energy (ZNE) and doubling energy efficiency savings. This plan, along with D.18-01-004, which addresses the Third Party Solicitation Process for Energy Efficiency Programs, allows SDG&E to begin to implement its strategies described in these plans for increasing energy efficiency by reducing barriers to implementation, raising customer awareness and increasing participation.

SDG&E launched its initial energy efficiency solicitations in November 2018, seeking proposals from the bidder community and market that will address barriers and core

principles including:

- Supporting state policy goals to double energy efficiency;
- Providing innovative solutions to customer needs;
- Improving customer experience;
- Maximizing the value of the energy portfolio; and
- Positioning energy efficiency for success in a more integrated resource acquisition structure.

Solicitations for both local programs and statewide programs will continue thru 2021 as SDG&E works to round out its energy efficiency program portfolio with new and innovative programs that will better serve customers' needs and secure more energy efficiency savings. More information on SDG&E's Energy Efficiency solicitations can be found at www.sdge.com/more-information/doing-business-with-us/energy-efficiency-third-party-solicitations.

Conclusion

SDG&E's energy efficiency vision will continue to embark down an unprecedented path where new, innovative offerings will be developed collaboratively by the market to help its customers manage their energy costs through energy efficiency, conservation and demand reduction. The guidelines for innovation, integration and comprehensiveness will remain an emphasis as SDG&E continues to strive to improve the customer experience through enhanced comprehensive energy efficiency portfolio offerings aligned with the State of California's goals. Extensive collaboration with the CPUC, State, regional and other stakeholders will continue as SDG&E prepares to implement its new rolling portfolio.

2018 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 investor-owned utilities (IOUs) share similar program theories, goals, and design elements, each IOU may be implementing a unique tool by a different vendor.

In 2018, 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 and household usage data 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 2018, SDG&E continued to promote the residential online audit tools implemented behind the customers' *My Account* credentials and on the Home Energy Report (HER) customer portal. Administering both platforms allows for comparison between the two options in terms of conversion rates (engaged customer vs. completed audit and action plans), user friendliness, comprehensiveness and relevant energy-saving tips. This comparison exercise will assist in future planning of features and functions needed for high levels of customer engagement and energy savings potential.

The HER platform also allowed customers to earn points and rewards for audit completion; 2018 marketing campaigns prompted customers to add household

information to enable more relevant recommendations and HER comparisons. In 2018, the total number of completed audits from both platforms resulted in more than 8,000 residential audits.

2. Statewide CALSPREE – Plug Load and Appliance

The Plug Load and Appliance (PLA) Program develops and builds upon existing retailer relationships and point of sale strategies. It is comprised of two subprograms: Home Energy Efficiency Rebate (HEER) and Point of Sale (POS) subprograms. The two PLA subprograms offer incentives to customers to purchase and install high-efficiency products (such as ENERGY STAR®) and work with key marketers to drive the adoption of more energy-efficient products.

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

Program Description:

The PLA - HEER Subprogram provides downstream rebates for energy efficient products such as heat pump water heaters, gas water heaters, clothes washers and smart thermostats. Customers can access rebates through the SDG&E rebate portal at sdge.com/apply or by submitting a paper application.

Implemented Strategies:

SDG&E continued to identify areas of opportunity to increase customer participation through effective marketing strategies including five segmented e-mail campaigns, two customer nurture campaigns, digital marketing across social media and online platforms, and in-store printed materials. Starting in mid-2018, customers that visited SDG&E's rebate portal could apply for a downstream rebate using a simplified digital redemption process. As SDG&E offered more rebates on energy-efficient products with both midstream and upstream delivery channels, program participation in the traditional downstream model continued to diminish. However, the downstream program is still necessary to ensure that customers can purchase from their desired retail location; not all retailers are able to join point-of-sale efforts, so downstream continues to be relevant to ensure customer choice. Steps were taken to simplify the downstream rebate process, making it more user friendly and adding transparency by allowing customers to

track the status of their application.

SDG&E also continued to use the SDG&E Marketplace as a channel to present energy-efficient products, and presented an icon to identify which measures and units qualified for a rebate. Customers then clicked through to the all-new SDG&E rebate portal where they filled out an online application and submitted their proof of purchase receipt. Upon verification, customers received their choice of a check, Visa gift card or electronic gift card via e-mail. By implementing this updated and streamlined downstream rebate process, SDG&E saw an increase in completed applications as well as a decrease in customer application errors, incomplete applications and a lower call-center volume regarding application questions. This resulted in faster processing times and a greatly improved customer experience.

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

Program Description:

The Plug Load and Appliances (PLA) – Point of Sale (POS) Subprogram provides midstream and upstream rebates to customers in a cost-effective way while optimizing the customer experience. This program leverages retailer, distributor, contractor, and manufacturer relationships to offer customers incentives for high-efficiency product purchases. The PLA - POS Subprogram provides rebates, removing traditional downstream program barriers like limited impact, low cost effectiveness and cumbersome customer application process, although the number of cost-effective offerings is limited.

Implemented Strategies:

In 2018, SDG&E's PLA - POS Subprogram expanded retailer and customer participation in midstream and upstream channels. In addition, the program added new three major big box retailers for smart thermostat instant rebates. 1,317 store visits, 461 in-store associate trainings, and monthly communications to retail partners ensured program details and updates were widely known and accepted. Retail partners included store and/or department management, supervisors and sales lead associates. The store training consisted of in-store presentations and program reviews by the program implementer and product manufacturers. PLA - POS signage was updated when program

changes occurred as well as when the program realized opportunities for increased customer awareness.

In 2018, SDG&E became one of the first utilities in the United States to offer a validated POS rebate in-store for smart thermostats by leveraging an application programming interface (API) that allows instant validation of eligibility to receive a rebate. SDG&E offered various approaches to customer programs by leveraging technology and partnerships, resulting in more cost-effective residential measures and an increase in rebate redemptions. SDG&E is continuing to share its lessons learned with utilities nationwide and with other key market actors.

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 dwelling units of multifamily complexes and condominiums. An additional objective of the program is to heighten energy efficiency awareness with property owners, property managers and tenants.

Implemented Strategies:

The MFEER Program continued to integrate with the other programs that SDG&E offers (e.g. ESA, CARE, CMHP, BES, etc.) to the multifamily sector to ensure that all the multifamily solutions are presented to the property owner and/or management company. In 2018, SDG&E continued to utilize the Single Point of Contact (SPOC) approach to provide a one-stop shop for multifamily property owners and managers. The SPOC coordinates common area and in-unit enrollments so they appear to be one comprehensive, whole building program from the participant's perspective. In 2018, SDG&E also focused on optimizing measure mix and measure costs of the program in order to improve cost effectiveness. For example, SDG&E diligently worked with the program vendor to identify the most cost-effective measure mix available by running numerous Cost Effectiveness Tool (CET) mock-ups until the final rendition was agreed upon.

As a result, in 2018 the MFEER program reached approximately 132 complexes within SDG&E's service territory. In doing so, SDG&E facilitated multifamily property owners' and managers' participation in all energy efficiency and low-income customer programs while minimizing the confusion that owners or managers may have had regarding program participation and qualification. Furthermore, in 2018 the MFEER program successfully delivered a comprehensive mix of offerings ranging from Smart Programmable Thermostats, to AC Diagnostics, to Low flow showerheads to name a few. The program operated via a Direct Install delivery mechanism which yielded little to no cost for customer participation. These efforts made throughout 2018 assisted the program's participation, helped to raise program awareness with qualifying customers and further promoted the benefits of energy efficiency across SDG&E'S service territory.

4. SDGE3209 SW-CALS EUC HUP

Program Description:

The Home Upgrade (HU) and Advanced Home Upgrade (AHU) programs provide assistance and incentives for home improvement projects that can increase energy efficiency and make homes more comfortable. The program rewards a comprehensive, whole-house approach that includes improvements such as heating, air-conditioning, water heating, duct sealing and insulation. There are two paths to the program. There is a Home Upgrade path that uses a deemed approach, and an Advanced Home Upgrade path that uses comprehensive energy modeling.

There is also a multifamily (MF) component to this program. Energy Upgrade California – Multifamily (EUC-MF) 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.

Implemented Strategies:

In early 2018, SDG&E's team met with implementers and participating contractors to brainstorm how to increase savings in 2018. Following these discussions, several measures were removed that were not cost effective. In addition, new program requirements were established for the single-family Home Upgrade program, namely that a

minimum of 10 percent site savings must be achieved in homes that were built between 1993 and 2011.

During 2018, SDG&E held four roundtable meetings with the Home Upgrade and Advanced Home Upgrade participating contractors and raters. During the meeting the focus was to educate contractors and raters on best practices to address whole house retrofitting, identify areas of opportunity where the most savings could be achieved, and address any program challenges, barriers and/or concerns. In addition, SDG&E worked collaboratively with third-party vendors to ensure program communications were current, relevant and timely during 2018. The communication channels utilized for contractor engagement were in the form of newsletters and mentioned communicated during contractor roundtable meetings.

As a result of this program offering and strategies, approximately 160 homes have received energy efficient upgrades and have provided customers more comfort, health and savings on their utility bill. These implemented strategies also benefitted approximately 1,533 units and approximately 4,000 tenants as a result in multifamily housing.

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-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). The program also aims 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.

Implemented Strategies:

The CAHP supports the implementation of California's most updated 2016 building

code changes with the support of the statewide CAHP team and various industry partnerships. There was a collaborative effort with Codes and Standards to ensure that builders are educated on the benefits of advanced attics, walls, and windows as well as other identified residential new construction solutions, and the cost benefit associated with these more advanced measures. Additionally, the statewide CAHP team worked closely through their partnership with the Building Industry Association to educate the building industry about new ways to correctly install these advanced envelope measures and spread awareness of measure support when considering these specific measures through marketing. The 2018 program year was a successful year for the CAHP, and SDG&E was able to provide incentives for over 20 projects across the territory.

The CAHP continued to implement new code readiness efforts by educating builders on best new construction best practices. Statewide CAHP efforts continue to work at administering a program that supports energy efficiency, demand response and renewables, with the ultimate goal of building ZNE ready homes by 2020. Although incentive participation in the CAHP has slowed due to ever increasing code changes, statewide plans to provide increased builder & customer education around the financial & physical benefits of high-efficiency homes are being created.

The statewide CAHP team worked closely through their partnership with the Building Industry Association to educate the building industry - contractors and builders - about new ways to correctly install these advanced envelope measures and spread awareness of measure support when considering these specific measures through marketing. The 2018 program year was a successful year for the CAHP, and resulted in SDG&E able to provide incentives for over 20 completed projects across the territory. The CAHP efforts resulted in increased builder education surrounding the 2020 ZNE Ready home requirement for California.

6. SDGE3293 SW-CALS Residential HVAC-HVAC Core

Program Description:

The Statewide Residential Heating, Ventilation and Air Conditioning (HVAC) Core Program delivers a comprehensive set of downstream, midstream, and upstream strategies that build 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, energy savings and demand reductions are achieved and/or supported through multiple efforts that make up the comprehensive program approach in support of the Strategic Plan and the HVAC Action Plan.

The primary objective of this program is to drive high quality levels in California's HVAC market for technology, equipment, and installation and maintenance with realized energy savings.

Implemented Strategies:

In 2018, the Western HVAC Performance Alliance (WHPA) continued to transition to its new non-profit form. However, progress has been slow and has not enjoyed much industry support, in part due to a delay in the WHPA receiving a letter of determination from the IRS which would allow for tax-deductible contributions. Therefore, minimal benefits were derived by the IOUs in respect to gaining HVAC-industry insights, a major focus of the IOUs support of the WHPA. Appropriately, minimal budget was expended. The IOUs continued engagement in and support of the WHPA will be determined by the success of its transition to a non-profit organization.

The HVAC programs will transition to the statewide model in late 2020. HVAC programs will be designed, proposed and delivered by third-party implementers. In the interim, this program will support strategic planning and solicitation efforts for these future programs.

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, which

helps the program maximize 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:

To keep up with increased distributer interest, additional funding was provided and more than 120 residential customers were reached. In addition, distributors have become accustomed to data requirements and have made adjustments to accommodate the program needs.

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

Program Description:

The Residential HVAC Code Compliance Program provides incentives to HVAC distributors for working with their installation contractors to initiate the Home Energy Rating System (HERS) process and to end use customers 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 finalized residential permits for HVAC replacements 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 HVAC Code Compliance Program was discontinued pursuant to CPUC Decision 17-11-006.

B. Statewide Commercial Energy Efficiency Programs

1. SDGE3215 SW-COM-Strategic Energy Management

Program Description:

The IOUs co-designed the Strategic Energy Management (SEM) Program to replace the Commercial Continuous Energy Improvement (CEI) Program in 2017. The SEM

Program vision is to provide long-term consulting services to educate and train industrial customers to achieve deep energy efficiency savings through an energy management approach.

Implemented Strategies:

SDG&E has begun the third party solicitation process to serve the Small Commercial and Large Commercial sectors in compliance with the 2018 business plan decision. Consequently, during 2018, SDG&E didn't use the program funds allocated from the originally planned Commercial SEM Program budget.

As a result there was no program activity in the SEM program.

2. SDGE3216 SW-COM-Customer Services-Benchmarking

Program Description:

Assembly Bill 802 was signed into law in October 2015. The bill required utilities, by January 1, 2016, to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. By January 1, 2017, the bill required each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator or to the owner's account in the ENERGY STAR® Portfolio Manager, subject to specified requirements.

Implemented Strategies:

In 2018, SDG&E continued to assist customers by offering tools and help with uploading building energy usage data to Portfolio Manager, which is where customers can calculate and obtain their benchmarking score. SDG&E and its stakeholders, along with the other IOUs, continued to work closely with the California Energy Commission (CEC) to continue to develop and automate (completed in 2018) the AB 802 provisions that require: (1) the utilities to provide energy consumption data for impacted non-residential and multifamily property owners or their agents upon request; and (2) the CEC to establish an updated benchmarking and public disclosure program for buildings. This information will allow building owners and property managers to better understand their energy

consumption through standardized energy use metrics. In 2018, SDG&E processed approximately 150 customer inquiries for consumption data.

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

Program Description:

The Comprehensive Audit Program is an IDSM audit that produces a comprehensive audit report that is equivalent to an American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level 2 report. 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, which is a more detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Category 2 audit is geared toward 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 Category 1 and 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 had a similar number of audits performed at customer sites in 2018 as in 2017. Vendors and account executives continued to deliver qualified leads for the program and customers were successful in submitting online audit requests via SDG&E's website portal. Audits were performed for various business types including universities, hospitality facilities, office buildings and retail stores. A majority of audits performed were Category 1 audits, which resulted in the customer receiving a report that includes a complete inventory of their energy consuming equipment. SDG&E also performed Category 2 audits for customers who had previously completed a Category 1 audit. The Category 2 audit was performed based on specific measures from the Category 1 report, allowing for a comprehensive site evaluation. In 2018, SDG&E received roughly

120 commercial audit requests, of which approximately 75 were completed in 2018. The remaining audits are targeted to be completed by mid-2019.

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 based on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which includes state-mandated codes, federal-mandated codes, industry-accepted performance standards or other baseline energy performance standards.

Implemented Strategies:

In 2018, SDG&E made additional enhancements to the project tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP) by adding new functionality to better track projects, which are selected by Commission staff on the Custom Measure & Project Archive (CMPA) list. SDG&E also developed a new structure for organizing project documents that will enable staff to respond to future Commission staff review requests in a more uniform manner.

SDG&E worked closely with Commission staff to close out and pay incentives for several previously selected projects from prior program years.

SDG&E continued to work with Commission staff, IOUs and other stakeholders to further develop the Custom Streamlining protocol.

In 2018, the program continued to experience reduced customer participation. The number of new commercial project applications decreased by 75% from 2017. SDG&E has received feedback from customers, trade professionals and internal stakeholders regarding the challenges of complying with the complex program requirements.

SDG&E conducted monthly training sessions for external stakeholders to reinforce and improve the knowledge of program participants on the various details and requirements of the program.

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 2018, the SBD Subprogram experienced significantly reduced program activity. Whole Building approach projects were stalled due to ongoing modifications to the building modeling tool used by the statewide SBD program to qualify and calculate incentives and energy savings for these projects. The statewide SBD team worked collaboratively with the software developer to modify the Energy Pro tool to comply with Commission Staff direction. Upon completion of this effort in Q1 2019, processing of Whole Building customer projects will resume.

To improve program visibility in the territory, SBD continued to collaborate with the American Institute of Architects (AIA) San Diego chapter to promote efficiency training, site tours, efficiency recognition and website tools to its approximately 800+ members. Additionally, SBD added a new online lead generation tool (Build Central) that facilitates the identification of new non-residential projects at various stages of design and construction within San Diego and Orange Counties.

In 2018, the statewide SBD team completed a redesign of the SBD website www.savingsbydesign.com. The updated and streamlined web interface provides SBD program information and allows customers and design teams to navigate program processes. Also, the statewide SBD team began the work necessary to transition the program to be administered as a statewide Non-Residential New Construction program. This collaboration and coordination began as brainstorming and evolved into a working group to develop the structure to move forward with solicitation activities in 2019.

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:

In 2018, the Commercial Rebates Program continued with two separate program deliveries – for lighting products the Instant Lighting Rebates Program, and for non-lighting products, the Energy Efficiency Business Rebates Program. The Instant Lighting Rebates Program utilizes a midstream delivery channel and works directly through distributors to buy down the cost of lighting products. The incentive is passed through to the customer in the form of a discount. The availability of the lighting program the entire year resulted in four times increase in savings from 2017. All other non-lighting products continued to be offered in Energy Efficiency Business Rebates Program, which utilizes a downstream channel.

Monthly trainings for trade professionals continued in 2018. These trainings provide a high-level overview of the programs and give trade professionals the opportunity to work directly with program advisors. Trainings have been well attended and well received.

7. 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 build on existing education and marketing efforts and leverage relationships within the HVAC industry to transform the market towards a sustainable, quality-driven market. Market transformation, energy savings and demand reductions are achieved and/or supported through multiple efforts that make up the comprehensive program approach in support of the Strategic Plan and the HVAC Action Plan.

The primary objective of this program is to influence California's HVAC market for technology, equipment, installation and maintenance with realized energy savings.

Implemented Strategies:

In 2018, the Western HVAC Performance Alliance (WHPA) continued to transition to its new non-profit form. However, progress has been slow and has not enjoyed much industry support, in part due to a delay in the WHPA receiving a letter of determination from the IRS which would allow for tax-deductible contributions. Therefore, minimal benefits were derived by the IOUs in respect to gaining HVAC-industry insights, a major focus of the IOUs support of the WHPA. Appropriately, minimal budget was expended. The IOUs continued engagement in and support of the WHPA will be determined by the success of its transition to a non-profit organization.The HVAC programs will transition to the statewide model in late 2020. HVAC programs will be designed, proposed and delivered by third-party implementers. In the interim, this program will support strategic planning and solicitation efforts for these future programs.

C. Statewide Industrial Energy Efficiency Programs

1. SDGE3227 SW-IND-Strategic Energy Management

Program Description:

The Statewide Industrial Strategic Energy Management (SEM) Program utilizes a measurement and verification guideline developed in a joint process with the IOUs and the CPUC. The SEM Program employs a holistic, whole-facility approach that uses Normalized Metered Energy Consumption (NMEC) and a dynamic baseline model to determine savings from all program activities at the facility, including capital projects, maintenance and operations.

Implemented Strategies:

SDG&E and the contracted implementer worked closely in 2018 to develop and launch the new California SEM Program for the industrial segment. Start-up activities primarily entailed preparing marketing materials, planning the goals and guidelines for the program and recruiting participants. The contracted implementer and SDG&E engaged industrial customers who were identified through market research to participate in the inaugural California SEM program offering.

The 26-month program was launched in June 2018, and kick-off meetings were held

between SDG&E, the implementer and each of the seven participating customers. This laid the foundation for the program, and the implementer began collecting production data for potential use in energy models from participants.

The contracted implementer held three workshops during 2018:

- Workshop 1, Establishing an SEM Program, was held in July.
- Workshop 2, Saving Energy, was held in August.
- Workshop 3, Tracking Energy Performance, was held in November.

After Workshop 1, participants developed their energy goals and assembled energy teams for the program. Each site has an Executive Sponsor, an Energy Champion and a Data Master.

Basic energy maps were created by participants at workshop 2, and treasure hunts were held at each site between Workshops 2 and Workshop 3. Every participant emerged from their treasure hunt with a list of capital and O&M opportunities to pursue throughout the SEM program.

Beginning in July, the contracted implementer gathered energy data through access to SDG&E's Green Button and developed hypothetical electric and gas energy models for customer sites. The energy models were reviewed with SDG&E personnel in October 2018. After incorporating comments from the review meeting, the models were released to the SEM participants at Workshop 3.

Milestone #1 was in September 2018 and required participants to have all energy and production data to the implementer by this time. All seven sites hit the milestone and received their incentive milestone payments.

The contracted implementer is using cloud-based SEM software for all participant-facing documents and information for the SEM program. In this software, participants track their energy models in cumulative-sum and other graphs. Their opportunity register is also housed in the software, as are shared program documents. Their opportunity registers are tied to the graphs so that certain activities recorded in the register appear on the graphs, linking participants' actions to savings.

2. SDGE3228 SW-IND-Customer Services – Benchmarking

Program Description:

Assembly Bill 802 was signed into law in October 2015. By January 1, 2016, the bill required utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. By January 1, 2017, the bill required each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator or to the owner's account in the ENERGY STAR® Portfolio Manager, subject to specified requirements.

Implemented Strategies:

In 2018, SDG&E continued to assist customers by offering tools and help with uploading building energy usage data to Portfolio Manager where customers can calculate and obtain their benchmarking score. SDG&E and its stakeholders, along with the other IOUs, continued to work closely with the CEC to continue to develop and automate (completed in 2018) the AB 802 provisions that 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. This information will allow building owners and property managers to better understand their energy consumption through standardized energy use metrics.

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

Program Description:

The Comprehensive Audit Program is an IDSM audit that produces a comprehensive audit report that is equivalent to an ASHRAE Level 2 report. SDG&E offers two types of audits: 1) Category 1, 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, 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 and Category 2 audits include energy efficiency, demand response and distributed generation opportunities. These audits are performed by vetted engineering firms and the audit reports deliver 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 industrial segment had an increase of approximately 30% in program participation in 2018. The increase was due to the industrial account executives delivering leads to the program and customers having the ability to submit an online audit request via SDG&E's website. Audits were performed for various business types including manufacturing facilities, water treatment plants, military facilities, and research and development facilities. A majority of audits performed were Category 1 audits, which resulted in the customer receiving a report that includes a complete inventory of their energy consuming equipment. SDG&E also performed Category 2 audits for customers that had completed a Category 1 audit. The Category 2 audit was performed based on specific measures from the Category 1 report, allowing for a comprehensive evaluation. In 2018, SDG&E received roughly 37 industrial audit requests that were either completed or are pending completion by mid-2019.

4. 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 includes state-mandated codes, federal-mandated codes, industry-accepted performance standards or other baseline energy performance standards.

Implemented Strategies:

In 2018, SDG&E made additional enhancements to the project tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP) by adding new functionality to better track projects, which are selected by Commission staff on the Custom Measure & Project Archive (CMPA) list. SDG&E also developed a new structure for organizing project documents that will enable staff to respond to future Commission staff review requests in a more uniform manner.

SDG&E worked closely with Commission staff to close out several previously selected projects from prior program years.

SDG&E continued to work with Commission staff, IOUs and other stakeholders to further develop the Custom Streamlining protocol.

Overall, the calculated incentive program continued to experience reduced customer participation in 2018; however, the number of new industrial project applications increased by 15% from 2017. SDG&E continued to receive feedback from customers, trade professionals and internal stakeholders regarding the challenges of complying with the complex program requirements.

SDG&E conducted monthly training sessions for external stakeholders to reinforce and improve the knowledge of program participants on the various details and requirements of the program.

5. 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:

In 2018, the Statewide Industrial Deemed Incentives Subprogram continued with two separate program deliveries – for lighting products, the Instant Lighting Rebates Program, and for non-lighting products, the Energy Efficiency Business Rebates Program.

The Instant Lighting Rebates Program utilizes a midstream delivery channel and works directly through distributors to buy down the cost of lighting products. The incentive is passed through to the customer in the form of a discount. The availability of the lighting program the entire year resulted in three times increase in savings from 2017. All other non-lighting products continued to be offered in Energy Efficiency Business Rebates Program, which utilizes a downstream channel.

Monthly trainings for trade professionals continued in 2018. These trainings provided a high-level overview of the program and gave the trade professionals access to work directly with program advisors. Trainings have been well attended and were well received.

D. Statewide Agricultural Energy Efficiency Programs

1. SDGE3234 SW-AG-Customer Services-Benchmarking

Program Description:

Assembly Bill 802 was signed into law in October 2015. The bill required utilities, by January 1, 2016, to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. By January 1, 2017, the bill required each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator or to the owner's account in the ENERGY STAR® Portfolio Manager, subject to specified requirements.

Implemented Strategies:

In 2018, SDG&E continued to assist customers by offering tools and help with uploading building energy usage data to Portfolio Manager where customers can calculate and obtain their benchmarking score. SDG&E and its stakeholders, along with the other IOUs, worked closely with the CEC to complete the development and automation of 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. This information will allow building owners and property managers to better understand their energy consumption through standardized energy use metrics.

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

Program Description:

The Comprehensive Audit Program is an IDSM audit that produces a comprehensive audit report that is equivalent to an ASHRAE Level 2 report. SDG&E offers two types of audits: 1) Category 1, 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, which is a 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 and Category 2 audits include energy efficiency, demand response and distributed generation opportunities. These audits are performed by vetted engineering firms, and the audit reports deliver 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 agricultural segment didn't receive any customer program applications in 2018. Overall, participation in the program is low as SDG&E has a small, hard to reach, agricultural segment in its service territory. The program continues to work closely with SDG&E's account executives to identify potential customers that would be good candidates for the Comprehensive Audit Program.

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 includes state-

mandated codes, federal-mandated codes, industry-accepted performance standards or other baseline energy performance standards.

Implemented Strategies:

In 2018, SDG&E made additional enhancements to the project tracking and payment repository system known as Energy Efficiency Collaboration Platform (EECP) by adding new functionality to better track projects, which are selected by Commission staff on the Custom Measure & Project Archive (CMPA) list. SDG&E also developed a new structure for organizing project documents that will enable staff to respond to future Commission staff review requests in a more uniform manner.

SDG&E worked closely with Commission staff to close out several previously selected projects from prior program years.

SDG&E continued to work with Commission staff, IOUs and other stakeholders to further develop the Custom Streamlining protocol.

In 2018, the program continued to experience reduced customer participation. The number of new agricultural project applications decreased by 33% from 2017. SDG&E continued to receive feedback from customers, trade professionals and internal stakeholders regarding the challenges of complying with the complex program requirements.

SDG&E conducted monthly training sessions for external stakeholders to reinforce and improve the knowledge of program participants on the various details and requirements of the program.

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:

In 2018, the Statewide Agricultural Deemed Incentives Subprogram continued with

two separate program deliveries – for lighting products, the Instant Lighting Rebates Program, and for non-lighting products, the Energy Efficiency Business Rebates Program. The Instant Lighting Rebates Program utilizes a midstream delivery channel and works directly through distributors to buy down the cost of lighting products. The incentive is passed through to the customer in the form of a discount. The availability of the lighting program the entire year resulted in three times increase in savings from 2017. All other non-lighting products continued to be offered in Energy Efficiency Business Rebates Program, which utilizes a downstream channel.

Monthly trainings for trade professionals continued in 2018. These trainings provided a high-level overview of the program 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. The subprogram entails development of innovative data-driven 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 2018, SDG&E collaborated with the statewide IOU lighting team and

stakeholders on the future of this subprogram. As LED proliferation has significantly increased, the subprogram funds for transforming the market were shifted to Primary Lighting to further provide cost effective product solutions to new, hard to reach customer locations.

Due to the significant increase in LED product availability and decreasing LED costs, the screw-in lighting market has nearly reached full market transformation in customer purchasing habits.

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:

In late 2018, SDG&E began discussions toward entering into an agreement with Nest and Amazon to provide "Smart Home" combo packs as a bundle through Amazon, containing a Philips Hue Starter Kit and Nest thermostat through the Plug Load and Appliance Program, with free installation provided by Amazon. The intent was to promote home automation and smart controls throughout the house. The program will close in early 2019, due to minimal emerging technology activity.

This subprogram resulted in collaboration with Amazon, Nest, and Philips to explore bundled "Smart Home" offerings via our Plug Load and Appliance program with installation provided by Amazon. This bundled offering is tentatively planned for launch in 2019.

3. 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 only high quality, premium efficiency LEDs.

Implemented Strategies:

During 2018, SDG&E's Primary Lighting Program worked with six 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.

SDG&E's Primary Lighting Program also continued to modify the list of products, eligible rebate levels and retailers participating in the program to accommodate the increasing specifications of CEC LEDs and changing baseline requirements. 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 worked with six manufacturers to promote efficient lighting in over 200 hard to reach locations, such as small independent grocery stores, drug stores, low income markets and discount shops alongside typical "big-box" stores. By doing so, SDG&E expanded the reach of efficient lighting into new avenues and reached customers that may not typically purchase efficient equipment or shop at a larger retail location. These hard to reach market locations allowed SDG&E to greatly increase the number of customers served and provide deeper market energy savings via an increased primary lighting program budget.

The program scope decreased by approximately 30% from 2017 to 2018, due to a significant influx of cost-effective Tier 2 CEC specified LEDs in 2017, in addition to

delivering most shipments in the first half of 2018. This was a result of strategic planning to reduce oversaturation in certain markets and allow the smaller retail locations ample time to exhaust stock before year end.

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 large IOUs.

Implemented Strategies:

In 2018, CDCR continued implementing retrofit projects and performing Investment Grade Audits. The IOUs and the Program Administration Manager (PAM) supported development of new projects, ensuring maximum efficiency and incentive potential. CDCR continued to use over half of the energy consumed by state agencies under the Governor's executive authority. Though CDCR's budget for implementing energy efficiency projects is minimal, through the CDCR-IOU energy efficiency partnership program efficiency projects can be identified and implemented through the IOU core and On Bill Financing (OBF) programs. OBF has been and remains the primary source of funding.

The Partnership provided ongoing outreach and education to institutions, ESCOs and stakeholders, and continues to improve program processes and procedures. While CDCR did not complete projects in SDG&E territory in 2018 along with CDCR's single customer, Richard J. Donovan (RJD) projects are in the pipeline for estimated completion in 2019, which includes a new six-building project resulting in savings of approximately 100,000 kWh in savings and $105k in incentives.

2. SDGE3267 LInstP-California Community College Partnership

Program Description:

The California Community Colleges (CCC) Partnership is a unique, statewide program

to achieve immediate and long-term energy savings and peak demand reduction within California's higher education system, established in previous program cycles for 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 quarterly to conduct business at the management level, and the Executive Team also 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:

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

The CCC/IOU Partnership has provided extensive outreach and technical support to the districts within the California Community College (CCC) system in support of their efforts to identify, develop, and implement projects funded through Proposition 39, the California Clean Energy Jobs Act of 2012. The Proposition 39 Program continues to be very successful with over 937 energy projects funded (approximately 566 of which were installed and closed out by the end of 2018). These projects will result in annual energy savings of 109 million kWh and 1.8 million therms, saving the CCCs $20.7 million per year in reduced energy costs system-wide. All 72 Community College districts throughout California are actively participating in the program and have benefited.

Administrative Successes – The Partnership held quarterly Management Team and Executive Team meetings to discuss overall program status, initiatives, and policy issues. In

addition, a joint Executive/Management Team meeting was held in December with plans to hold future joint meetings twice per year in 2019. In early 2018, then program restructured the Management Team to streamline meetings by adding IOU Account Representatives in attendance to provide "boots on the ground" perspective to the meetings. The team actively tracked project savings data in a database tracking tool, and continued to create regular reports to show overall status of program and forecasts relative to goals. These reports were reviewed by both Executive and Management Team members on an ongoing basis.

Implemented Retrofit Projects – Implemented a revised MBCx process based on CPUC requested changes to the program. The IOUs worked closely with the California Community College Chancellor's Office to develop a process to integrate the resources and infrastructure of the Partnership into the CCC and successfully implement hundreds of Prop 39 projects across the State. These projects were implemented using FY 2016-2017 and 2017-2018 Proposition 39 funding and built a project pipeline for FY 2018-2019 funding.

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

3. SDGE3268 LInstP-UC/CSU/IOU Partnership

Program Description:

The UC/CSU/Utility Energy Efficiency Partnership is a unique, statewide program which includes California's four investor owned utilities, Pacific Gas and Electric (PG&E), Southern California Edison (SCE), Southern California Gas Company (SCG), and San Diego Gas and Electric (SDG&E), as well as the Los Angeles 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, commissioning, and new construction. Since its establishment in 2004, the Partnership has provided approximately 65 MW demand reduction and contributed to approximately 470 million kWh and 25 million therms in annual energy savings.

Implemented Strategies:

The Partnership also has a Training and Education team that organizes various energy efficiency trainings targeted to university campuses. Inclusion of all Partnership stakeholders at the various management levels provides the UC and CSU campuses with support in their efforts to implement energy efficiency projects. A Program Administrative Manager (PAM) organizes and facilitates team activities, works with individual stakeholders, actively tracks project savings creates regular reports to show overall status of the program and forecasts relative to goals.

Administrative Strategies - The IOUs finalized their Public Sector Business Planning activities with stakeholders and the CPUC. The Business Plans provide a description and analysis of Public Sector customers, identify barriers faced by these institutions, and address intervention strategies for overcoming these barriers. With the assistance and input from of the University of California, the IOUs continued implementation and development of various program offerings and High Opportunity Project or Programs (HOPPs), including a whole building program consistent with SB 350, AB 802 and AB 1150 to demonstrate measured savings against existing conditions, pay for performance, and comprehensive whole-building approach to building efficiency. Partnership Teams worked together to gather input from UC and CSU regarding the statewide approach to be implemented in 2020. A new UC systemwide energy policy was implemented with the help of the Partnership, requiring a 2% annual energy reductions per campus. Additionally, an EUI Dashboard was created to track UC campuses progress towards meeting this requirement.

Projects - Significant volume of energy efficiency projects delivered in 2018 and

underway for future years. Completed 52 Retrofit, MBCx and New Construction projects at 16 different UC and CSU campuses (inclusive of UC Med Centers).

Training, Education and Outreach - The Training and Education Team continued their scholarship program, granting over $50,000 educational scholarships to UC and CSU Energy Managers, and organizes approximately seven successful trainings, webinars, and in-person events focused on a range of topics related to energy efficiency.

The Partnership focused widely on efforts surrounding normalized metered energy consumption (NMEC) in compliance with AB-802. In addition, UC and CSU continued with a second phase of UC's Million Lamps Challenge, beginning work on a CEC Grant to develop a Master Enabling Agreement for energy efficiency at UC and CSU campuses. In 2018, UC also developed and implemented a new systemwide energy policy which encourages efficiency by requiring campuses to reduce their energy consumption by 2% each year.

The Partnership determined several programmatic changes which will take effect in the 2019 cycle. Beginning in 2019, Training and Education Programs will be administered directly through the IOU energy centers, rather than through the Partnership. A new and more cost-effective database will replace the current Partnership P6 database in 2019. Additionally, Partnership Teams will meet on a more limited basis as the program prepares to shift to statewide administration in 2020.

Overall, the UC/CSU/Utility Partnership made progress towards the 2018 program cycle goals, totaling over 1,750 kW (~99% of goal), 12.8 million kWh (~59% of goal), approximately 143,000 therms (~17% of goal), and providing over $2.7 million in incentives (~43% of goal).

4. SDGE3269 LInstP-State of California/IOU Partnership

Program Description:

The State of California Partnership is a statewide program designed to achieve immediate and long-term peak energy demand savings and establish a permanent framework for sustainable, comprehensive energy management programs at state facilities served by the IOUs. This is accomplished by collaborating with the Department of General Services (DGS), coordinating with the DGS established pool of energy service companies

(ESCOs) to help implementation of comprehensive facility energy efficiency projects and working with individual state agencies on technology-specific projects. The DGS leverages Department of Finance Energy $mart program, along with the IOUs' OBF, incentives and rebates to provide financing for project opportunities.

Implemented Strategies:

In 2018, the IOUs and DGS spearheaded a working group to address Savings by Design (SBD) participation barriers for DGS buildings. The working group supported this effort by developing a flow chart to better understand the DGS procurement process. The group reviewed and updated DGS contract language, reviewed established incentive structures and defined alternative payment solutions to better align with DGS systems. The Partnership will track an SBD project currently in progress to use as a test case for implementing solutions developed by the working group.

The IOUs continued to work with the State to prioritize agencies that may benefit from ESCO work, both for large and pooled small buildings. The Partnership has provided extensive outreach and technical support to Agencies including California Highway Patrol (CHP), Department of Motor Vehicles (DMV), and Department of Parks and Recreation (DPR). Outreach to these agencies yielded significant energy savings and created a robust pipeline of future projects.

The IOUs continued attending the Sustainable Building Working Group meetings, a State of California working group that consists of agency sustainability managers, with the task of planning and implementing all aspects of B-18-12, the Governor's Executive Order. The IOUs attend in a supporting role to ensure that agency needs regarding energy data for benchmarking are met. The IOUs continue to use this platform for agency outreach.

DGS has developed strategies beyond using Energy Service Companies (ESCOs) to reduce procurement barriers and encourage faster completion timelines at several facilities. DGS works with the IOUs to quickly complete less-comprehensive projects that primarily look at lighting and controls and DGS is developing agreements so that the utility companies can implement ESCO projects at DGS facilities through the IOUs' own ESCO programs.

DGS uses all financing mechanisms available for energy savings projects: operations budgets, revolving loan funds, third-party financing, OBF and on-bill repayment. One challenge of the existing OBF program is a funding limitation of $1-$2 million per site and/or utility account; DGS has had to limit the scope of energy efficiency projects to remain under this cap. The IOUs are working with DGS and the CPUC to raise this limit where feasible.

Through training and outreach activities, the State/IOU Partnership increased awareness and understanding of Statewide Program offerings to additional State agencies. DGS completed projects in San Diego Gas and Electric (SDG&E) territory in 2018, including projects at Del Mar Fairgrounds/22nd District Agricultural. Additionally, through direct work with California Highway Patrol (CHP) agency, site audits were completed, and measures were installed at several facilities. Based on continued agency outreach, The State/IOU Partnership anticipates additional opportunities for DGS and State agency projects in 2019.

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

Program Description:

The USD Partnership program is designed to create a more sustainable campus through the adoption and implementation of a robust Climate Action Plan (CAP) anchored in energy efficiency to 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 to students, staff, and alumni with an emphasis on behavior modification, the program is intended to educate campus audiences in identifying and adopting energy saving practices not only on campus, but also in their careers, communities and homes.

Implemented Strategies:

In 2018, USD implemented projects and practices that resulted in gross energy savings resulting in approximately 497,576.40 kWh accomplished primarily through roles supported through the Partnership. Strategies included scheduling and controls oversight

by the HVAC Controls Specialist, campus outreach programs led by the Sustainability Coordinator and student staff, and incorporation of a policy for building occupancy hours developed by the Energy Manager. USD also began participation in the Automated Demand Response program since installation of 209 Ecobee thermostats in December 2017, resulting in an estimated savings of 240 kW in 2018.

USD's Office of Sustainability held physical outreach efforts that reached approximately 4,000 people. This was achieved through an estimated 30 events and 10 presentations addressing sustainability and energy efficiency including several sustainability-related research projects. The Office's digital outreach was boosted via an increased presence on social media, email platforms, and expansion of its website for communicating to the USD community regarding current efficiency projects. These delivery channels allowed widespread communication of sustainability-related information along with a robust online campus interactive map highlighting sustainability features across campus.

Office of Sustainability advanced its efforts in staff and student education via the Green Office, Eco-Resident, and Sustainability Heroes Programs. A total of approximately 82 offices to date are Green Office certified, with 14 certifications awarded in 2018. Additionally, since the spring launch of the EcoResident Program, approximately 40 students were influenced to adopt behavior changes within the residence halls to reduce their energy and water consumption. Over 25 USD community members were acknowledged as part of the Sustainability Heroes Program, recognizing students, faculty, and staff for sustainable behaviors on and off campus.

In October 2018, USD began its Vampire Energy Slayers program - an educational campaign to raise awareness of "vampire energy" reaching an estimated 250 employees in seven campus buildings. Staff and volunteers located and "slayed" the vampire energy prowling in electronics and appliances used infrequently throughout the day. During this first phase of the program, approximately 455 instances of vampire energy were discovered and a strategic plan to neutralize use was communicated. In 2019, the campaign will be repeated in the same buildings to determine the effectiveness of the

original outreach and ways to improve the program.

The manual demand response (load-shedding) program developed last year is now paired with the automated demand response capability of the ecobee thermostats installed at the end of 2017, allowing USD to better control temperature setbacks and adjust scheduling during SDG&E events (critical peak pricing events). To further assist in addressing peak demand, USD entered into a contract with Stem, Inc. to install a 500 kWh battery that will charge and discharge at optimal times to reduce the campus load and minimize high demand costs.

6. SDGE3271 LInstP-San Diego County Water Authority Partnership

Program Description:

The San Diego County Water Authority (SDWCA) Partnership aims to achieve greater levels of customer awareness of energy and water savings opportunities that eventually lead to increased participation in joint water energy efficiency programs offered by SDWCA and SDG&E. In addition, the Partnership implements initiatives designed to maximize embedded energy savings while also promoting the San Diego region's water conservation priorities.

SDG&E and SDCWA established a Memorandum of Understanding (MOU) in 2016 that extends the partnership through 2020. The MOU included:

- Collaborate and assist 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; and
- Hold monthly meetings with SDCWA to further determine additional activities to support the partnership.

Implemented Strategies:

Strategic Water Energy Plan - Over the years, numerous stakeholders have explored means of delivering joint energy and water programs. To address this gap, a consultant was hired to develop a Strategic Water Energy Partnership Framework. The document

provided 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 customers. Using this framework as a starting point, in 2018 SDG&E and SDCWA continued the process of developing plans to implement joint water energy programs and seeking collaboration opportunities that save both water and energy and allow the combination of water and energy rebates. This planning and implementation process focused on the following three areas:

1) Agriculture - a Coordinated Agricultural Water Energy Audit;
2) Commercial - a Commercial Direct Install Food Service offering; and
3) Residential – an offering within the Low-Income Program.

In 2018, the Low-Income collaboration was formalized and initialized. Customers receive information related to saving both water and energy and SDCWA helps fund water saving measures. Additionally, SDCWA's water auditor and SDG&E's Agricultural EE third-party implementor have developed a process for audit coordination and lead sharing. For the Commercial sector, SDCWA and SDG&E continued the design effort to integrate water incentives into SDG&E's direct install Commercial Food Services program.

G. Local Government Partnerships:

1. SDGE3272 LGP – City of Chula Vista Partnership

Program Description:

The Chula Vista Local Government Partnership's (LGP) goal is to improve community and municipal energy efficiency by integrating City departments. The program components include municipal facility efficiency improvements, strengthening building energy codes and inspections, energy engineering, 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 supporting neighboring South Bay cities' energy efficiency efforts.

Implemented Strategies:

Municipal Energy Management (Non-Resource Program)

In late 2016, the City initiated a city-wide interior light LED retrofit to replace

approximately 15,000 LED T-8 bulbs in City with energy saving LED lights, with another 5,000 lights pending. As of 2018, 8 facilities have been completed and the city-wide retrofit project will be completed in early 2019. Additionally, the City continues to work with the U. S. Department of Energy's (USDOE) Better Buildings Data Accelerator Initiative (in partnership with SDG&E) to address whole-building energy benchmarking challenges and is working to reach energy performance goals. The City continues to implement the City Operations Sustainability Plan, which so far has reduced energy usage of all buildings by 25% compared to the 2010 baseline. Staff continued to participate in LEED EBOM best practices trainings, resulting in approximately 10 City staff trained, and certification submission for City Hall Buildings.

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

The FREBE program was enhanced in May 2018 with a web-based application to increase business referrals, resulting in 129 referrals to SDG&E programs and 849 site visits. Since the beginning of 2018, 10 new businesses have been recruited into the CLEAN Business Program.

For residents, City staff completed 100 home energy & water check-up evaluations, which generated approximately 51 direct referrals for SDG&E and 90% of participating homeowners implementing at least one of the energy-saving recommendations. Property Assessed Clean Energy (PACE) financing has been used to provide more than 5 million dollars' worth of financing for energy efficiency, renewable energy, or water efficiency improvements in 2018.

The Empower Hour has engaged over 22,500 youth with new science experiments, an energy efficiency survey and "reading time" to educate on related topics. In addition, at the Civic Center Library approximately 6,000 six graders and additional members of the public visited the Smart City energy efficiency display.

City staff also adopted a reach code requiring commercial new construction to utilize LED lights in most outdoor lighting in support of the Climate Action plan. In addition, the City created the Chula Vista Climate Action Challenge to educate residents about actions to save energy and resources such as rebates and financing.

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. The goal of the 2016-2020 City of San Diego Energy Efficiency Partnership is to increase the City's role as an environmental steward, leader in best practices and to support the City's CAP. The five program areas focus on improving municipal building energy efficiency, codes and 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:

Identification of municipal building usage - Benchmarking – the City reached out to more than 30 organizations and indirectly to 15,000 members of those organizations regarding the statewide benchmarking mandate and the City's planned local benchmarking ordinance.

Municipal Building Audits – SCOUP CEC Energy Management Grant for Benchmarking, integrated energy management. Engaged in the HOPPS, CPUC program to assess the Adaptive Control outdoor lighting, as the first in the Nation to adopt a citywide standard, and metered rate.

ZNE Assessments – City is retrofitting three libraries to ZNE in 2018-2019 with a CEC grant for Energy management for three City branch libraries for $3.2 million.

Projects and other Work – Audit data was utilized for the development of the Municipal Energy Strategy and Implementation Plan. Best Practices include Citywide standards for Adaptive Control Outdoor lighting for all projects above and beyond Title 24 requirements. City retrofitted approximately 5,000 fixtures and continues to retrofit an additional 3,500 Outdoor lighting fixtures to Adaptive Control technology and all additional projects implemented will require Adaptive Controls as the new citywide standard which exceeds Title 24 requirements and saves additional energy, for all new and retrofitted

fixtures including high mast sports lighting. Benchmarked over 700 City facilities in Portfolio Manager.

Climate Action Planning/work – Developed a long-term monitoring plan to regularly update greenhouse gas inventories, develop Climate Action Plan (CAP) progress reports, and publish information and data related to the City's CAP.

3. SDGE3274 LGP – County of San Diego Partnership

Program Description:

The County of San Diego Local Government Partnership (LGP) delivers net energy savings, peak demand savings and sustained energy efficiency through the implementation of both internal and external education and outreach programs, community-based implementation programs and projects at County facilities. The Partnership will assist the County of San Diego with its Strategic Energy Plan implementation, including: Reducing Energy Usage and Cost; Reducing Embodied Energy in Potable Water Use; Green Buildings and Infrastructure; and Monitoring and Communication/Education.

Implemented Strategies:

During calendar year 2018, the County has engaged in climate action plan creation and implementation, educational outreach of residents in incentive programs, and implementation of energy efficiency projects within internal operations on County owned facilities.

Successes include: development of a GHG calculator tool and monitoring program, a consistent data collection process, and internal and external reporting processes to assure climate action plan measures are on track to meet the 2020 reduction targets; outreach to County residents at over 100 events, through pre-show activities which include distribution of EE collateral and the airing of current EE messaging; zero net energy (ZNE) portfolio plan implementation including energy management baseline development, deployment of onsite renewable energy systems, energy reduction projects such as retro commissioning and retrofits at major energy-using facilities, ZNE for all new construction, and purchase of community solar electricity for all small accounts; and completion of investigation reports including retro commissioning, whole building energy assessments,

and ASHRAE level 3 investment grade energy audits.

4. SDGE3275 LGP – Port of San Diego Partnership

Program Description:

The goal of the 2016-2020 Port of San Diego's (Port) – San Diego Gas & Electric (SDG&E) Energy Efficiency Partnership (Partnership) is to increase the Port's role in the region as an environmental champion, progress achievement of the Port's Climate Action Plan (CAP) greenhouse gas (GHG) reduction goals. 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. Work done through the Partnership is concentrated within the Port's five-member cities: San Diego, Coronado, National City, Chula Vista, and Imperial Beach.

Implemented Strategies:

Greenhouse Gas Inventory

Climate Action Planning progress has achieved approximately 28% reduction in energy use, 42% reduction in water use, and a 31% decrease in Port's attributable Greenhouse Gas (GHG) emissions in 2017 (as compared to 2008). Since 2008, the Port has saved $9 million dollars in avoided utility costs due to energy and water conservation efforts. The Port also conducted a comprehensive inventory which included all GHG emissions on Port tidelands and indicated a 13% reduction in GHG emissions since 2006.

Energy Efficiency Retrofit Projects

The Port completed the design of multiple interior and exterior energy efficient lighting projects that include retrofitting existing lights to LEDs at several Port facilities. The projects prioritized for construction during 2019 will be funded by the Port (estimated cost: $269,000) and are projected to save approximately 175,000 kWh.

Green Business Network

The Port engaged 120 tenant business representatives through the Green Business Network on topics including energy management, lighting retrofits, and HVAC upgrades.

Green Employee Education Campaign (GEEC)

The Green Employee Engagement Campaign was also initiated during 2018 and will

focus on increasing energy efficiency behavior at Port tenant facilities in 2019. During Green Port Month (held in September), the Port held a month-long employee engagement campaign called Energy Goals focused on energy efficiency and conservation at work and home, engaging over 37% of Port employees to implement nearly 900 energy savings actions taken at work and at home, resulting in savings of 1,214 kilowatt hours (kWh). Port staff continuously monitored and benchmarked the 130 electrical meters and 100 water meters utilizing the ENERGY STAR® Portfolio Manager® (Portfolio Manager) online tool throughout the year.

Utility Usage Reporting Ordinance

In December, the "Agreement to Jointly Deliver the Energy Efficiency Partnership Program between the San Diego Unified Port District and San Diego Gas & Electric Company" (LGP) was amended to include provisions for the non-disclosure and retention safeguards of tenant data. Under the amended agreement, the Port will work directly with SDG&E in early 2019 to obtain aggregated tenant energy usage data in support of CAP management and energy planning. In the interim, under the authority of the Executive Director, the Port suspended the benchmarking ordinance's 2017 tenant reporting requirements.

5. SDGE3276 LPG – SANDAG Partnership

Program Description:

The San Diego Association of Governments (SANDAG) serves as the regional planning agency for the 18 cities and County government of the San Diego Region. The SANDAG LGP functions to deliver energy efficiency services, climate action planning services, and related assistance to the remaining 16 member cities. The Program also allows SANDAG to integrate energy efficiency and greenhouse gas (GHG) reduction practices into its internal operations and as part of the projects it develops for the San Diego region.

Implemented Strategies:

Municipal Building Audits

In 2018, the Program delivered energy engineering services to support

implementation of local Energy Roadmaps, including direct support for four additional cities (Coronado, Imperial Beach, Oceanside, and La Mesa) and the SANDAG Toll Operations Center. The Program also provided direct support to the cities of Carlsbad, San Marcos, and Vista. In addition, the Program made progress on the development of a web-based tracking tool to support the tracking and implementation of energy savings projects identified with the Energy Roadmaps and conducted municipal site audits of the 16 Roadmap Cities, including a roll-out of the tool to the Roadmap Cities for testing and feedback.

Climate Action Planning/Work

Climate Action Planning Technical Services – In 2018, the Program provided direct support to two additional cities (El Cajon and Del Mar); continued to provide support six other cities at various stages of the climate planning process (Lemon Grove, Vista, Imperial Beach, San Marcos, Escondido, and Oceanside); and completed climate planning deliverables for the cities of Solana Beach, Encinitas, and La Mesa.

Regional Climate Planning Efforts – In 2018, SANDAG completed the Regional Climate Action Planning Framework, (ReCAP)which is a guidance document for climate action planning in the San Diego region. ReCAP leveraged dollars from the LGP for energy efficiency aspects and other funding sources for the remaining components. The SANDAG Board of Directors accepted ReCAP as a regional resource and guidance document in June 2018.

During 2018, SANDAG also leveraged the LGP to supplement other sources of funding and made substantial progress on the development of updated GHG inventories and projections for all Roadmap Cities (see discussion below under “Program Implementation Barriers” detailing how issues in obtaining utility data have impeded the development of GHG inventories and projections).Marketing and Outreach

SANDAG Green Operations – SANDAG raised energy efficiency awareness among SANDAG employees in 2018, including a Sustainability tour of the San Diego Zoo that highlighted energy efficiency projects and programs implemented at the Zoo and SDG&E core programs that supported its design and operation; monthly messages to SANDAG staff on energy efficiency topics; conducted lunch n’ learns for employees on new SDG&E rates,

and outreach to employees at the 2018 Wellness Fair.

6. SDGE3277 LGP – SEEC Partnership

Program Description:

The Statewide Energy Efficiency Collaborative (SEEC) catalyzes local government action toward meeting California's Long Term Strategic Plan goals via technical support, coaching, education, peer-network development, and recognition through three Non-Government Organizations: Local Governments for Sustainability (ICLEI), Institute for Local Government (ILG), Local Government Commission (LGC) and Best Practices Coordinator (BPC).

Implemented Strategies:

Engagement through SEEC resulted in 142 Beacon Program Participants, 201 New ClearPath GHG Inventories Program Participants, 352 SEEC Forum Attendees, 24 Climate Action Plan Program Participants, 446 SEEC ClearPath Tool Users, 29 Green House Gase Inventory Program Participants, 875 Best Practice Coordinator stakeholders engaged, resulting in approximately a 43% increase in the number of participants utilizing the learning platform at the beginning of the year to the end of the year. The SEEC Accelerator Program, which provides targeted technical assistance to local governments with a variety of technical expertise, provided targeted assistance to disadvantaged/low-income (DAC) and rural-hard-to-reach (RHTR) communities. ICLEI, with support from the BPC, developed greenhouse gas (GHG) Inventories for Stockton and Fresno, and initiated inventories with San Jose, Huron, and Arvin.

The Beacon Program gained 12 additional cities, many of them DACs. ILG assisted 142 participants with data requests and documentation of their sustainability achievements, including 29 Electricity Savings Spotlight Awards and six Natural Gas Savings Spotlight Awards.

LGC led coordination of the 9th Annual SEEC Forum in Sacramento. 95% of survey respondents rated the overall event as good or extremely good. 96% of survey respondents agreed or strongly agreed that they increased their knowledge and understanding of the issues.

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.

Implemented Strategies:

ECP helps participants implement the EE portions of their Climate Action Plans and develop tools to help with outreach to their jurisdictions or educating the City staffers. The program also contributed to Energy Action Collaboratives with SANDAG which leverages four regional quarterly forums to support the cities across the entire San Diego County with their energy efficiency and climate action planning efforts.

Additionally, ECP helped in the development of a scholarship program for attending the 2018 Statewide Energy Efficiency Collaborative (SEEC) Forum to encourage further participation from City staff.

Programmatic successes included developing energy efficiency related Ordinances for the City of Carlsbad, which included outreach to residents and businesses to help provide resources on energy efficiency related items. Additionally, a vendor was contracted to complete energy efficiency ordinance for the City of Encinitas.

The City of Vista also continues work on their Climate Action Plan utilizing funding from the Emerging Cities Program for contractor support for data analysis on the energy sections of the Climate Action Plan and completing the development of the City's Energy Roadmap.

Additionally, ECP funded a survey to identify opportunities for outreach and education for the Inland Cities Collaborative business community utilizing a collaboration with the Regional Green Business Network.

Other outreach activities in 2018 included the completion of the Clean Energy Plan program for SDG&E and a revitalization of the annual energy efficiency information that is provided to each City within SDG&E's service territory.

H. Statewide Emerging Technologies Programs

Program Description:

The Statewide Emerging Technologies Program (ETP) supports the IOUs' energy efficiency programs in their achievements of aggressive objectives through the three subprograms described below. ETP uses multiple tactics to achieve the objectives of the three subprograms. Some of the key tactics are described below, but each tactic may be used to achieve any of the subprogram objectives.

1. SDGE3246 SW-ET – Technology Introduction Support

Program Description:

The Technology Introduction Support (TIS) Subprogram supports the market introduction of new technologies 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 Strategic Plan 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 applied 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, 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:

The ETP scanned, screened, and prioritized TIS project ideas in coordination with the energy efficiency programs as well as statewide Emerging Technology Coordinating Council (ETCC) partners. The results of these activities included primary and secondary market research to gain further insight into new technologies and their potential in SDG&E's service territory. The program goal for 2018 was initiating one new project, and there were two projects initiated, which both support heating ventilation and cooling (HVAC) in 2018. One project is exploring technologies to improve maintenance and installation services for residential HVAC systems. The second project is gathering data to understand the market potential and barriers for new gas driven heat pump technologies. Throughout the year, the ET program team attended conferences to share research results with the public and other interested stakeholders. The SDG&E ET staff was also invited to share information about our research at the E360 Forum, an open industry event for supermarket energy efficiency opportunities.

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. 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 site testing (customer or other field sites), laboratory testing, or paper studies. In addition to other findings and/or information, assessments typically generate the data necessary for energy efficiency rebate programs to construct a workpaper estimating energy and demand savings over the life of

the measure.

Implemented Strategies:

The ETP scanned, screened, and prioritized TA candidates in coordination with the energy efficiency programs as well as statewide ETCC partners. The results of these activities included five new projects initiated in 2018, and the program goal was initiating four new projects in 2018. The projects initiated in 2018 were focused on the areas of lighting technologies, residential HVAC, heat recovery, restaurant energy efficiency opportunities, and micro-brewery energy efficiency opportunities. Completed project reports were published to the ETCC website and shared during the ET Summits held in April and October of 2018. Also in 2018, the results from a past ET study on phase change materials for refrigeration systems were adopted by the custom incentives program, and initial efforts began to identify applications of the same technology for a statewide workpaper.

3. SDGE3248 SW-ET – Technology Development Support

Program Description:

The 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 outreach events, as well as leading a grant competition for energy related technologies.

Implemented Strategies:

The program's goals for 2018 include initiating one new project, and SDG&E did initiate one new project, which supports research and testing of horticultural lighting technologies. The ETP also worked closely with partners, such as the Consortium for

Energy Efficiency (CEE), Western Cooling Efficiency Center (WCEC), Electric Power Research Institute (EPRI), Gas Technology Institute (GTI), and the California Lighting Technology Center (CLTC) to provide targeted education, testing, support, and guidance for technology development.

An additional result of the program activities was continued support of early stage companies through the Rocket Fund and Department of Energy's (DOE) FLoW (First Look of the West) business plan competition event, which both provide seed funding to help start-ups develop products that address energy efficiency program needs.

I. Statewide Finance Program

1. SDGE3262 SW-FIN – On-Bill Finance

Program Description:

The On-Bill Financing (OBF) Program is SDG&E's interest-free, unsecured finance offering designed to facilitate the purchase and installation of comprehensive, qualified energy efficiency measures for non-residential customers, including multifamily property owners or management companies, that might not otherwise be able to act, primarily due to capital constraints. Approved customers that install qualified equipment 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 a customer's utility bill.

Implemented Strategies:

SDG&E's OBF Program continues to be a practical and efficient means for customers to install energy efficiency measures they may not otherwise be able to afford. The program provides monthly trade professional training on the OBF process and requirements. The OBF trainings offer a two-way open communication channel between trade professionals and SDG&E's OBF Program staff.

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, periodic meetings and special projects. Financing programs also

enable SDG&E to provide the best possible experience for its customers' energy efficiency projects.

Since its inception, SDG&E's OBF program has funded over 1,600 loans totaling approximately $65 million as of year-end 2018, enabling businesses, local governments, and institutional customers to pursue increasing levels of energy efficiency. In fact, SDG&E has seen an uptake in larger projects, particularly from government-funded customers who are choosing to leverage their access to higher loan amounts, resulting in SDG&E's largest single loan disbursement ever, at over 6 million dollars. As a result of this increased demand, SDG&E implemented a customer cap in early 2018 to ensure that future funding remains available for more customers.

J. Statewide Codes and Standards Program

Program Description:

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

Program advocacy and compliance improvement activities extend to virtually all buildings and appliances sold in California in support of the California's ambitious climate and energy goals. Having achieved, through adoption of 2019 California Building Energy Efficiency Standards (Title 24, Part 6), the EE Strategic Plan goal that, "New construction will reach "zero net energy" (ZNE) performance (including clean, onsite distributed generation) for all new single and low-rise multi-family homes by 2020."[California Long Term Energy Efficiency Strategic Plan), the Program continues to move California towards non-residential new construction ZNE buildings by 2030, and other major objectives: a) carbon reduction targets in 2020 equivalent to 1990 emissions levels (California Assembly

Bill 32) 2% and 40% below 1990 by 2030 (California Assembly Bill 398 and California Senate Bill 32); b) a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end-uses by January 1, 2030 (California Senate Bill 350) to reduce existing building energy usage by 50 percent; and c) near-zero-emission building technologies to significantly reduce the emissions of greenhouse gases from buildings (California Senate Bill 1477).

Implemented Strategies:

Implementation strategies of the C&S program include advocacy for new or updated sections of California's Building Energy Efficiency Standards and related American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and International Code Council (ICC) activities; advocacy for new California Title 20 Appliance Standards and Federal Department of Energy (DOE) appliance standards, and related ENERGY STAR® activities; training, tools, and resources to support compliance with existing codes and standards; development of new cost-effectiveness studies to support local government reach codes; long term planning and coordination activities to optimize work across California's utilities; and code readiness activities aimed at specific industries and technologies for future code cycles.

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

Program Description:

The Building Codes Advocacy subprogram primarily supports the California Energy Commission's efforts to update California's Building Energy Efficiency Standards (Title 24, Part 6) to include new requirements or to upgrade existing requirements for various technologies. Title 24, Part 6 is updated on a triennial cycle. Advocacy activities include the development of Codes and Standards Enhancement (CASE) proposals, research to provide data needed to advance energy efficiency codes and standards, and participation in public rulemaking processes. In addition to supporting Title 24, Part 6, the subprogram also supports the Energy Commission in making recommendations to the Building Standards Commission for updates to Title 24, Part 11 (CALGreen). The energy measures in CALGreen provide foundational elements for local energy ordinances or reach codes.

In 2018, the subprogram also pursued changes to national building codes that impact California through ASHRAE and other national and international code-setting bodies. In 2019, it is expected that some of the national model codes activities will transition to the recently approved National Codes and Standards subprogram.

Implemented Strategies:

On Wednesday May 9, 2018, the CEC adopted a triennial update to California's Building Energy Efficiency Standards. The 2019 Building Code will apply to all new construction and major retrofit projects permitted on or after January 1, 2020. The energy efficient building standards were first developed in the 1970s, and SDG&E has been a longtime participant in the process. SDG&E is part of the statewide utility team that supports the development of the building energy efficiency standards.

The IOUs supported the CEC's 2019 rulemaking by developing 40 building code proposals contained in 23 Codes and Standards Enhancement (CASE) reports where some reports contained multiple proposals). A few of the CASE reports supported updates to CALGreen instead of Part 6. The 2019 final CASE reports and Results Reports, which compare what was proposed to what was adopted, are available online at www.title24stakeholders.com.

As a result of this work on these CASE reports, the measures referenced below go into effect for all new construction and major retrofit projects permitted beginning January 1, 2020.

For residential, the updated standards represent progress on a roadmap the state has been following since 2008, when California adopted a goal that all residential new homes should be zero net energy by 2020. For the first time, the Standards require new residential construction to achieve a near zero-net energy threshold, which may require onsite generation such as private rooftop solar panels. While this doesn't make solar mandatory for all new residential construction, most new homes will include a combination of efficiency and onsite solar generation as the most straight-forward way to meet the standards. High performance attics, walls, and windows will provide long-lasting efficiency and comfort benefits. Batteries and heat pump water heaters are not required,

but if they meet certain requirements, they may be beneficial in the package of technologies included in designs that achieve a passing compliance score. This compliance score is known as the Energy Design Rating (EDR).

The residential measures include: High Performance Walls, High Performance Attic (HPA), Quality Insulation Installation (QII), High Performance Windows and Doors, Residential Adoption of ASHRAE Standard 62.2-2016 Measures, Residential Quality HVAC Measures, Compact Hot Water Distribution, Drain Water Heat Recovery and a Demand Response Reorganization.

For non-residential, new construction and significant retrofit projects should be designed to include high-efficacy lighting, such as LED lighting. The lighting energy use budget is now significantly less as LEDs have become more commonplace. Alignments with national codes such as ASHRAE 90.1, will make it easier to design buildings that will meet local requirements across multiple states. Newly constructed healthcare facilities will also need to meet the energy efficiency standards, as they were not required to in the same way other building types were.

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

Program Description

The Appliance Standards Advocacy (ASA) subprogram targets both state and federal standards and tests methods including improvements to California's Title 20 Appliance Efficiency Regulations by the California Energy Commission (CEC), and improvements to federal appliance regulations and specifications by the Department of Energy (DOE), Environmental Protection Agency (EPA) ENERGY STAR® Program, American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and the Federal Trade Commission (FTC). Additionally, the subprogram monitors state and federal legislation and intervenes, as appropriate.

Implemented Strategies:

The ASA subprogram has been actively engaged in the Variable Refrigerant Flow (VRF) test procedure and standard for HVAC systems to negotiate with industry to tighten up the test procedure to ensure VRF equipment is as efficient in the field as it is marketed

to be. Industry was unwilling to make significant modifications to the test procedure until the IOUs presented lab and field data that demonstrated that the equipment rating can be up to 50% higher than what consumers will see in their facilities. This data provided the basis for DOE to collaborate with the IOUs on a data collection plan that would collect data to base the upcoming test procedure changes. As a result of the IOUs efforts there will be significant savings and equipment ratings will be indicative of equipment performance. These advocacy activities included developing Title 20 code enhancement proposals, participating in the Energy Commission public rulemaking process and ASHRAE committees, collecting data to support IOU positions, submitting comment letters in federal standards proceedings, and participating in direct negotiations with industry.

Several other ASA subprogram efforts have been pursued at the state level. The IOUs provided material support the CEC adoption of the portable electric spas, compressor and portable air conditioner standards. ASA subprogram staff participated in several CEC webinars and workshops regarding and developed Codes and Standards Enhancement (CASE) studies for the CEC on products including spray sprinkler bodies, commercial & industrial (C&I) fans and blowers, expanded GSL definition, solar inverter roadmap, portable air conditioners, compressors, tub spout diverters, low power mode and power factor roadmap, and portable spas and pool pumps rulemakings. The ASA subprogram also completed laboratory testing for residential and commercial clothes dryers and VRF where the results are being utilized to create or improve test procedures. The Hearth product CASE study was also submitted to the CEC.

The ASA subprogram advocated for changes to federal appliance standards through multiple efforts. Program staff researched and responded to specific issues related to federal rulemaking and specification processes conducted by the DOE and EPA ENERGY STAR® and participated in stakeholder meetings during rulemakings and specifications processes, resulting in eighteen rulemaking advocacy letters issued in 2018. Additionally, Program staff participated in DOE's VRF Appliance Standards and Rulemaking Federal Advisory Committee meetings with DOE, industry, and other stakeholders.

3. SDGE3251 SW-C&S – Compliance Improvement

Program Description

The Compliance Improvement (CI) subprogram supports increased compliance with the adopted Building Energy Efficiency Standards and the Appliance Standards. Compliance improvement activities complement advocacy work by maximizing verified, persistent savings from C&S activities. The CI subprogram targets market actors throughout the entire compliance chain, providing education, outreach, and technical support and resources to improve compliance with both building and appliance energy standards.

Implemented Strategies:

Throughout 2018, the CI subprogram continued to employ a systematic approach to enacting behavior change throughout the building and appliance efficiency supply chains. The three-pronged performance improvement approach addresses the essential elements of behavior change:

- Training to increase awareness and motivation and to provide the skills needed to comply
- Outreach to increase awareness and motivation
- Tools and Resources to empower people to take the desired action

The work accomplished in each area reflects specifically what key market actors told the CI subprogram they want and need in order to improve compliance and was completed in close collaboration with the Energy Commission.

In 2018, the SW Codes and Standards team training delivered more than 136 classes, across eight modalities, and dozens of roles. The team reached more than 3,955 students and achieved a 95% satisfaction rate and 18% knowledge swings on average. New virtual courses were launched including one in support of the new Advanced Energy Rebuild Program, another designed to teach building industry the benefits of applying the performance compliance path over the prescriptive and "Roll-up-your-sleeves" interactive three-hour sessions during which design professionals receive one-on-one coaching from experts on specific case scenarios.

The Compliance Improvement tools team continued to automate the Title 24

compliance process by launching the suite of nonresidential Title 24 dynamic forms in 2018, and finalizing a user interface that industry may use to complete lighting forms in turbo tax fashion. The forms work responds to industry's frustration by significantly reducing the number of forms through consolidation, auto-populating to reduce work, and providing error checking to improve accuracy. The Energy Commission will require the use of dynamic forms over paper based as of January 1, 2020. Additionally, the Compliance Improvement tools team launched a comprehensive electronic library that industry may access to answer over 500 questions and a dynamic timeline tool that indicates which building and appliance efficiency code activities are on the horizon. Along with new tools, the resource team launched an extensive series of note blocks on construction plans which aids designers and plans examiners in determining which mandatory measures are applicable to a project. The team also worked with subject matter experts to mark-up the vast library of existing 2016 resources in preparation for implementation of the 2019 code cycle.

In addition to continually sending targeted messages, placing advertisements and articles, and maintaining the Energy Code Ace website, the outreach team refreshed the CI subprogram's Comply with Me theme and hosted the first annual Energy Code Ace conference. The conference hosted more than 180 people representing all segments of the Title 24 compliance supply chain and provided opportunities for attendees to learn how to access and apply Energy Code Ace tools, training and resources to their common work scenarios. Additionally, the team created a comprehensive binder of Energy Code Ace resources that was sent or hand-delivered to each building department throughout the state. Permit technicians and customers refer to the binders to gain quick code compliance guidance. The outreach team also facilitated Energy Code Ace participation in more than 50 Title 24 and Title 20 industry events while maintaining the website which currently has more than 7,000 registered users. In recent surveys conducted to determine training needs of permit technicians and design professionals, more than 86% of permit technicians surveyed indicated that they use ECA resources while more than 78% of design professionals surveyed said they visit the ECA site.

The Program also continued transitioning the Certified Energy Analyst (CEA) exam administration to CABEC while supporting exam proctoring and revisions as needed. Additionally, the CI subprogram continued assessing the difference in the quality of the compliance documents submitted for permits by CEAs and energy consultants who are not certified. Study parameters were reviewed by the CEC prior to launching the analysis so that findings may be used to support future adoption of CEA requirements.

The CI subprogram also continues to support Title 20 compliance by targeting key measures which we define as having high savings paired with low compliance, and those that are newly regulated. In 2018, the CI subprogram conducted needs assessments and developed work plans for: lighting, residential pool pump replacement motors, computers, and small battery charger systems (SBCS). Our key measure-specific work has revealed program-wide compliance challenges indicating that retailers are not engaged in the compliance process, the Energy Commission's appliance database could be a more effective tool for compliance verification, large buyers are not tuned into compliance and energy savings, and Title 20 regulations are not written with compliance in mind. The CI subprogram has begun addressing these barriers through eleven measure specific factsheets, contractor training and conversations with major retailers.

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 local energy ordinances (reach codes) that exceed statewide Title 24 minimum EE requirements for new buildings, additions, or alterations. Reach code support for local governments includes research and analysis to establish performance levels and cost effectiveness relative to Title 24 by climate zone, drafting model ordinance templates to encourage regional consistency, assistance for completing and expediting the application process required for approval by the Energy Commission, and supporting implementation once effective. The Reach Codes (RC) subprogram supports local governments seeking to establish residential or commercial energy conservation ordinances for new construction and existing buildings.

Implemented Strategies

Many local jurisdictions have established goals within their Climate Action Plans to reduce energy use and GHG emissions from buildings through adopting and implementing local energy ordinances. Given the changing policy and funding priorities at the federal level, cities and counties are experiencing an increased sense of urgency for local action to meet the statewide goals. This has translated to a greater interest in reach codes as a path to achieve the goals. With reducing GHG emissions as the highest priority, there is a shift in focus from solely reducing energy use, to targeting energy use reductions associated with carbon emissions. This shift has resulted in an increased level of interest in all-electric designs, both at the local level, and at the state. One of the state-level changes, adoption of the 2019 Standards which created an all-electric baseline, allows all-electric designs to comply with and exceed the code more readily.

2018 RC subprogram work included analysis and report development, technical support for local jurisdictions, reach code resource accessibility improvements, and other activities. The Reach Code subprogram completed the following cost-effectiveness studies: Residential New Construction (RNC): PV Plus Battery Storage, RNC PV Plus Heat Pump Water Heating, Residential Retrofits, and Nonresidential PV for new construction and major alterations. In addition, a memo summarizing the impacts of the federal tariff on PV panels on the overall cost-effectiveness of the results in the RNC Tiers 1 and 2 study was also completed and publicly posted on our Statewide IOU Reach Code website www.LocalEnergyCodes.com.

For technical support of local jurisdictions, the RC subprogram presented cost-effectiveness studies, consulted on options and opportunities, created a checklist for permit applicants, and reviewed and made recommendations on proposed ordinance structure, triggers and language.

The RC subprogram continued updating and adding content to www.LocalEnergyCodes.com, which contains all subprogram studies, as well as model ordinance and resolution language, which jurisdiction staff may use to facilitate drafting an ordinance. Beginning from a common core helps to support consistency across

jurisdictions. The team added an interactive map feature to the site which allows people to see which jurisdictions have passed reach codes, and to obtain information on the ordinance, study and resulting changes to the municipal code. A companion matrix listing all information contained in the map is also posted on the site to allow users to view the information in a different format, accessing all ordinances at once, and comparing similar ordinances. The website also contains links to other providers, state agencies, and other resources. The site has gained approximately 243 registered users and has had more than 16,000 unique sessions. The Performance-Based Ordinances page is the most popular with 1,924 views, followed by the Resources page with 1,682 views in 2018.

The RC subprogram staff attended Statewide Energy Efficiency Collaborative (SEEC) Forum. Program staff coordinated and hosted a reach codes session "Reaching Up and Out: Advancing Reach Codes Together", partnering with the Energy Commission, and the Cities of Carlsbad and Santa Monica.

Following the adoption of the 2019 Standards, local interest in reach codes accelerated rapidly, mostly fueled by the desire to decarbonize the building sector. In response, the RC subprogram planned and hosted three Reach Codes Best Practices workshops in October 2018. Workshops were held in Oakland, Irwindale, and San Diego, and had 102 attendees from 77 organizations, including 43 city or county staff. Presentations from the workshops were downloaded 292 times by the end of the year. In addition, an overview of the reach codes process and summary of options and opportunities shared after the workshop were downloaded 198 times in 2018. The presentations and materials continue to remain popular on the site with an additional 163 presentation downloads and 126 downloads of the other materials in the first two months of 2019.

In 2018, several reach codes were adopted by local jurisdictions and approved by the Energy Commission, based on IOU cost effectiveness studies. Approved local ordinances may be found on the CEC's website: [8]

- County of Marin – June 13, 2018
- County of Alameda – July 11, 2018

- City of Chula Vista – July 11, 2018
- City of Del Mar – September 21, 2018
- City of Arcata – December 10, 2018

5. SDGE3253 SW-C&S – Planning & Coordination

Program Description

The planning element of this subprogram includes long-term planning and scenario analyses, modeling of impacts from potential C&S program activities relative to California policy goals and incentive programs, development of business and implementation plans, responses to CPUC and other data requests, updating the incremental measure costs for C&S measures, and maintenance of a C&S savings database consistent with evaluation protocols.

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

Implemented Strategies

Since codes and standards impact the entire state and almost all building types, occupancy categories, and related technologies, external harmonization activities encompass: a) CPUC, CEC, California Air Resources Board, b) other IOUs, municipal utilities, and utilities in other states, c) national advocates such as National Resources Defense Council (NRDC), Northwest Energy Efficiency Alliance (NEEA), Sierra Club, American Council for and Energy-Efficient Economy (ACEEE), Earthjustice, National Consumer Law Center, Consumer Federation of America, d) representatives of various manufacturing companies and industry groups such as Association of Home Appliance Manufacturers (AHAM), National Electric Manufacturers Association (NEMA), American Heating and Refrigeration Institute (AHRI), American Gas Association (AGA), and e) water utilities and

local governments, and f) other parts of the compliance improvement supply chain: building inspectors, Title 24 consultants, Contractor State Licensing Board (CSLB), etc.

With the current absence of a formal Zero Net Energy subprogram, the C&S Planning and Coordination subprogram has taken a lead role for coordinating the various EE and non-EE aspects necessary to effectively support customers and the building industry to meet the state's ZNE goals. The ZNE effort is not only limited to Title 24, but also supports the California Department of General Services' ZNE goals, schools (California Proposition 39), and the design and construction industry's efforts to meet the various ZNE goals.

K. Statewide Integrated Demand Side Management (IDSM)

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

Program Description:

SDG&E's 2018 IDSM Marketing, Education and Outreach (ME&O) efforts continued to focus on the benefits of comprehensive DSM programs for residential and small-medium business (SMB) customers.

The ongoing objective of local ME&O efforts is to funnel customers from awareness of SDG&E's broad portfolio of IDSM programs to interest in learning more, and ultimately to participating 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 and demand response portfolio.

SDG&E developed ME&O strategies, messages, and materials that increased customer exposure to, and understanding of, DSM programs and provided ongoing education through a variety of social media 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 2018, SDG&E's Outreach team participated in more than 750 community activities including events, presentations, and workshops that promoted holistic energy-saving solutions to customers. The goal of these activities was to offer a variety of comprehensive solutions in combination, including energy efficiency, demand response, and/or distributed generation programs, rather than only offering single solutions, one at a time.

Residential Outreach

Residential outreach efforts to promote residential IDSM measures often centered around recurring key initiatives, such as 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 methods SDG&E uses to educate residential customers about energy-saving solutions is through numerous partnerships with a diverse group of community-based organizations (CBOs). The organizations that make up SDG&E's Energy Solutions Partner Network reach a wide variety of customers through multiple platforms of engagement. Throughout the year, the Energy Solutions Partner Network distributed online and social media messaging that included information including behavioral tips, residential rebates and incentives, home upgrade program, Energy Savings Assistance, Cool Zones, and My Account tools and energy use alerts. Educational information was also provided about Time of Use (TOU) peak shift and High Usage Charge (HUC) which can move customers towards participation in energy efficiency programs. The social media links lead customers to My Account to learn more about their energy use and to solutions towards energy efficiency and SDG&E's Marketplace, featuring rebates on the purchase of select energy-efficient equipment and appliances. In addition to the social media messaging, the Outreach team works closely with the Energy Solutions Partner Network to present updated SDG&E Residential IDSM program updates to their members throughout the year to ensure they are aware of program changes.

In 2018, SDG&E held an Energy Solutions Partner Roundtable. This event brought together various partners to network with one another and receive updates on SDG&E programs and initiatives. While residential energy efficiency and demand response programs and services were the focus of the event, the outreach team presented other relevant topics including pricing plans, EcoChoice, CARE, the "Do Your Thing" campaign from Energy Upgrade California (EUC), Cool Zones, and summer preparedness.

Cool Zone locations are a great outreach strategy to provide the latest information on residential energy efficiency programs and services. Cool Zones are established by the County of San Diego Aging and Independence Services (AIS) and are open to the public every year from May to October. There are more than 100 Cool Zones in senior centers and other public buildings that provide service to some of the hottest areas in the San Diego region. The outreach team works with these Cool Zone partners to leave behind residential energy efficiency program marketing material for anyone that comes into one of the centers.

Business Marketing & Outreach

As with residential, the outreach team has several key business and trade associations, chambers, and local government partners that are a part of the Energy Solutions Partner Network. All the Energy Solutions Partners help to encourage participation in SDG&E's IDSM programs through collaboration packages. Collaboration packages were developed with communication tools including sample tweets, Facebook posts, e-newsletter, and website articles all highlighting SDG&E's IDSM Programs. The Energy Solutions Partners helped spread information to local business customers about available rebates and incentive programs including Business Energy Solutions, Energy Efficiency Business Rebate, Critical Peak Pricing, Energy Savings Assistance, Building Envelope Program, Business Energy Analyzer, On-Bill Financing, My Account tools and alerts, and the Trade Professional Directory. The Business Outreach team worked closely with their partners throughout the year to give presentations on updates to the IDSM programs, pricing and billing plans.

A curated group of business customers attended the inaugural Customer

Engagement Forum in April. The Forum provided an opportunity for influential business customers to engage on key topics of interest that are relevant and important to their company regarding energy management. It's a new twist on previous gatherings of the Major Customer Advisory Panel and is designed to give exclusive access and intimate dialogue with SDG&E executives with the goal of deepening the relationship with these selected customers. The quarterly Engagement Forums provided a deeper dive into SDG&E's Government and External Affairs group, initiatives and SDG&E programs.

BioCom Workshops

SDG&E Outreach continued its' partnership with BioCom offering a series of energy efficiency related workshops catered to the life science industry. With more than 950 members and a local San Diego presence, Biocom harnesses the collective power and experience of innovative, productive life science clusters globally, with advocacy and programs to help companies in their quest to improve the human condition. Biocom and SDG&E offered a series of workshops covering topics such as sustainable strategies, lighting controls, and smart investment strategies for long-term energy savings. Attendees received a certificate in 'Energy Savings for Life Science Facilities' from SDG&E during an informal Biocom ceremony, which could be brought back to their employers.

Following the success of this model, Outreach partnered with the International Facility Managers Association (IFMA) and provided an energy efficiency Air Handling class at SDG&E's Energy Innovation Center, in conjunction with the Workforce, Education & Training program. As an Energy Solutions Partner, IFMA marketed the class to new members as an introduction to the Energy Innovation Center's energy efficiency classes. Customer Solutions Outreach opened the training with a presentation on business resources through MyAccount, commercial rebates, and other energy and demand programs.

2018 Energy Showcase

With over 300 guests, business customers, and local officials, SDG&E celebrated twelve "Excellence in Energy Leadership" winners at the annual Energy Showcase event held at the San Diego Convention Center. These business customers were recognized for

implementing comprehensive energy solutions for their businesses, helping them be more cost and energy efficient. The Showcase provides an opportunity to inspire customers to become future award winners and highlight the importance of SDG&E's energy efficiency, demand response, emerging technologies, renewable, and clean transportation programs.

The Excellence in Energy Leadership award recognized businesses/organizations across the five sectors in the SDG&E business plan: commercial, industrial, residential, public and agricultural. The award nominee paradigm shift presented new opportunities to recognize customers, projects, partnerships and collaborative efforts that have an impact on our region but may not be tied to a specific energy efficiency project as in years past. This reorganization of the annual Energy Showcase brought a wider variety of nominations to choose from allowing recognition to worthy businesses throughout the county. The twelve Excellence in Energy Leadership winners by sector are:

- Commercial: Event Network, LLC, Jackie Robinson Family YMCA
- Industrial: BAE Systems San Diego Ship Repair, Dr. Bronner's
- Agriculture: Go Green Agriculture, Inc.,
- Public: City of Chula Vista, Port of San Diego, Customs & Border Protection, K-12 Schools Sustainability Collaborative
- Residential: Atmosphere, a Community of Wakeland Housing & Development Corporation, Sorrento Tower by the RAHD Group, Simple Construct

Along with the awards, the Energy Showcase featured a moderated keynote panel of energy experts from the California Energy Commission, Tesla, National Resources Defense Council and Nest labs who discussed:

- Policies, goals and regulatory structures supporting emerging technology market growth and overburdened customers
- Role of electric vehicles to achieve California's emissions targets
- How do we ensure access to technologies for all customers including the disadvantaged

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 with IDSM ME&O funding to expand exposure of energy efficiency, demand response, distributed generation, clean technology, and electric/water conservation. BPCP continued to be an exemplary representative of IDSM in action and expanded their efforts in 2018 to increase overall visitor awareness and continue to make comprehensive upgrades to park facilities.

Education is the cornerstone of BPCP's sustainability program. BPCP issued three Sustainability Facility Professional Scholarships and conducted six Sustainability Walk-About Tours. In addition, BPCP conducted 18 Lunch & Learn meetings and engaged 1,272 people on IDSM topics. BPCP's annual event brought together 178 stakeholders from 73 organizations and focused on the role of nonprofits as community influencers.

BPCP implemented energy efficiency projects within park buildings and was able to divert 6,655 pounds of electronic waste through recycling events and ongoing collection efforts.

BPCP received commendations from Congresswoman Susan Davis, Assembly member Todd Gloria and Councilmember Chris Ward for 10 years of sustainability success in Balboa Park and five years of educational programming. BPCCP published 10 LEED Best Practice videos on YouTube.

Awareness Campaigns and Targeted ME&O

RYU Thermostat - Small Customer Technology Deployment (SCTD)

SDG&E's energy efficiency rebate for smart thermostats continued with both an instant, point-of-sale validated rebate, as well as a traditional downstream option as well. SDG&E collaborated with retailers and manufacturers during holiday and other special campaigns like Black Friday to promote the benefits of smart thermostats and increase rebate participation. This promotion included the Reduce Your Use℠ Rewards offer as well. Work is being done with thermostat manufacturers to follow up with customers who received the energy efficiency rebate to ensure those customers are aware of demand response solutions as well. SDG&E achieved its 2017 goal of installing approximately 2,000

free thermostats and far exceeded its 2017 goals of enrolling 3,000 accounts in the "bring-your-own-thermostat" (BYOT) offer by enrolling 6,800 accounts in the program. A BYOT commercial offer, in which SDG&E offers an incentive to customers, who purchase their own thermostat, and agree to allow SDG&E to adjust the thermostat's setting during demand response events, was approved by the CPUC to begin in 2018. SDG&E will continue to leverage existing energy efficiency programs to promote this offer.

Business Resource Savings & Solutions

In 2017, SDG&E completed a major project – the launch of the new Business Resource to Savings & Solutions (sdge.com/BizRes). This resource lists all solutions and savings for commercial and industrial customers, but also serves as a resource for account executives, the Business Contact Center and field service representatives to easily present, download files and send savings solutions to customers. In addition, this resource saves money by taking the old Business Guide to Savings booklet and moving it to the digital arena. It will be included in the welcome packet for businesses in 2018, and will be made into individual cards to facilitate a more efficient revision process based on changes to individual programs. Business marketing communications carried out major cross-promotional pushes for Energy Efficiency Business Rebates, Business Energy Advisor Online Tool, Technology Incentives Program, Smart Thermostat Program, Small Business Real Time Energy Manager and Business Energy Solutions Program via radio, digital properties, collateral, emails, direct mail and social media to drive customer interest.

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

Program Description:

The purpose of the Local-IDSM-ME&O Behavioral (or "Home Energy Report (HER)") 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 through a comparison of their household's 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 HER program successfully reached the designated customer base in the deployment of the Home Energy Report expansion, adding roughly 150,000 additional residential customers, for a total of approximately 650,000 auto-enrollments. Program results include electricity and natural gas savings and serves as an entry point to additional services, including an online audit. More than 2,300 completed audits were submitted by customers in 2018. This is in addition to the number of audits in the HEES program, completed by customers who log into their My Account. The HER online platform, which is available to all residential customers, was upgraded by the program vendor to a more user-friendly customer interface in 2018, promoting energy audits and enabling customers to update their home profile for more accurate home comparisons. The platform provides a

number of services including neighbor comparison, advanced metering data, additional recommendations and tips, the ability to creates plans on what they can do to save, the ability to view their home energy usage in more detail, receive 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 or when an energy efficient action is recorded in the portal. Customers redeem their earned points for gift cards to a variety of retailers. The points and rewards component of the platform is available to all SDG&E residential customers. Enrollments in points and rewards increased during 2018, resulting in a total of over 9,700 customers earning rewards.

3. SDGE3282 SW-IDSM – IDSM

Program Description:

The California Energy Efficiency Strategic Plan ("Strategic Plan") recognizes the integration of demand-side management (DSM) options, including energy efficiency, demand response, and distributed generation, as fundamental to achieving California's strategic energy goals. To support this initiative, the 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's DSM Coordination and Integration Strategy.

An IOU and Energy Division Statewide IDSM Task Force was formed in 2010 and has continued coordinating statewide activities that promote the strategies identified in the Strategic Plan and the eight integration directives in CPUC Decision 09-09-047, as follows:

1. "Development of a proposed method to measure cost-effectiveness for integrated projects and programs including quantification and attribution methods that includes GHG and water reductions benefits and the potential long-term economic and electric/gas hedging benefits."
2. "Development of proposed measurement and evaluation protocols for IDSM programs and projects."
3. "Review IDSM enabling emerging technologies for potential inclusion in integrated programs."

4. "Development of cross-utility standardized integrated audit tools using PG&E's developed audits as a starting point."
5. "Track integration pilot programs to estimate energy savings, develop best practices 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 IDSM progress and recommendations to the CPUC."
7. "Organize and oversee internal utility IDSM strategies by establishing internal Integration Teams with staff from EE, DR, DG, marketing, and delivery channels."
8. "Provide feedback and recommendations for the utilities' integrated marketing campaigns including how the working group will ensure that demand response marketing programs approved as category 9 programs are coordinated with EE integrated marketing efforts."

Implemented Strategies:

a. Directives 1 and 2

The Task Force is exploring a phased approach to developing an appropriate methodology to calculate integrated cost-effectiveness and an integrated EM&V approach for IDSM programs and projects. Integrated Cost Effectiveness Research will establish the data needs to inform the understanding of integrated cost effectiveness for IDSM programs and projects. An integrated EM&V whitepaper is expected to show how the IOUs and the CPUC's Energy Division document and attribute energy savings and demand reduction to IDSM project implementation, using methodologies established from evaluation. In 2018, no additional reports were completed.

b. Directives 3 and 5

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, and to develop best practices. Several IDSM Pilots continued in 2018;

- Demand Response and Energy Efficiency: RYU Thermostat - Technology

Deployment (TD)

- Commercial Technology Deployment (TD)
- Behavioral Programs
- Assistance to Playa Vista with the design of the Playa Vista Community Center, which includes the latest co-gen technology to generate both hot water and electricity, and multiple EE measures (such as advanced LED lighting).
- IDSM Summit and Webinars

c. Directive 4

The SW Online Integrated Audits team continued to coordinate delivery of a consistent online integrated audit tool that:

- Works with each IOU interface
- Educates customers on managing their energy usage costs
- Provides customized audit recommendations for residential and small-to-medium-size business customers, based on customer profiles, operating characteristics, market sector potential, and cost-effectiveness.
- Continued to offer on-site integrated audits to small, medium, and large business customers.

d. Directive 6

The IOUs submitted four joint quarterly reports for 2018, including an Executive Summary section, to provide Energy Division staff with updates on the eight IDSM directives. All quarterly reports were uploaded and available for viewing on the California Energy Efficiency Statistics Data Portal (EE Stats).

e. Directive 7

The statewide IDSM Task Force held regular coordination phone calls to continue to ensure alignment across the state and discuss lessons learned.

f. Directive 8

Delivery of IDSM marketing in 2018 continued to be more than just promotion of multiple programs through specific tactics like production of collateral or maintenance of websites. It was (and is) 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 IDSM Task Force tracked, reported, and shared best practices related to local integrated marketing campaigns for residential and business customers. Notable marketing campaigns are as follows:

- CARE Acquisition Campaign
- SMB Peak Day Pricing Welcome Kit DM and EM
- LC&I Demand Response Industry Engagement
- Digital, social media and direct mail campaign to promote the smart thermostat rebate during the Black Friday and Christmas holiday promotional period
- Participation in residential and business events to promote its IDSM offerings, including energy efficiency, solar thermal, and advanced metering

IDSM highlights specific to SDG&E are featured below. Additional information can be found within the specific program write-ups.

The Emerging Technology department identified and/or integrated the following emerging technologies: Demand Side Management and Demand Response with Batteries; Connected Home Energy Management System and Dynamic Air Balancing for Commercial HVAC Systems. Final reports for these technologies are planned to be completed in 2019. SDG&E also provided over 7,100 residential integrated audits and over 2,900 non-residential integrated audits covering small, medium, and large customers.

SDG&E continued the demand response enabled programmable communicating thermostats to both residential and commercial customers, the Home Energy Reports program, and the expanded SDG&E Marketplace allowing customers to quickly and easily shop for energy saving products and services offered by third party retailers.

SDG&E's 13th annual Energy Showcase honored twelve entities for their "Excellence in Energy leadership". The Showcase honored entities that have been successful in leveraging their relationship with SDG&E to make meaningful & comprehensive energy efficiency, demand response, energy innovative and green practice improvements to their operations. In addition, integrated marketing campaigns and collateral continued throughout the year for business and residential customers. And, the Outreach team

continued to share information and offer comprehensive solutions to customers from all customer segments.

Results can be found within the specific program sections.

L. Statewide Workforce Education & Training

1. SDGE3254 SW-WE&T – Centergies

Program Description:

The Workforce, Education & Training (WE&T) Centergies Subprogram is made up of specific market segments, including 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 Innovation Center represents the largest component of this program, providing training courses, seminars, workshops, clean energy technology demonstrations, equipment efficiency testing, interactive training exhibits, and lectures to promote industry trends and developments for advancing energy efficiency as a professional discipline.

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, Building Operator Certification, North American Technician for Excellence, Certified Energy Manager and the Home Energy Rating System are exam prep trainings that were offered in 2018. An estimated 9 of these certifications mentioned were offered.

SDG&E collaborated with BioCom to offer three customized educational seminars. BioCom provided a certificate to their employees who completed all three seminars. The seminars were structured as two-hour lunch and learns in October and November at the BioCom facilities. Students who attended the seminar series learned about energy efficient lighting and lighting controls, and energy savings through process improvement and optimization.

SDG&E offered a home energy rating system certification course to home performance professionals that provided an overview of the California Home Energy Rating

System (HERS) Program. Students received an overview of the Field Verification and Diagnostic Testing Rater certification process and learned the importance of the C&S that define the California HERS Program. This course also teaches students important energy fundamentals and provides an overview of HVAC systems.

SDG&E continued to offer a series of seminars and trainings customized for Trade Professionals that provided an 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. Over 10 trainings were offered throughout 2018.

SDG&E continued its partnership with the Center for Sustainable Energy (CSE) to offer a homeowner workshop at the Energy Innovation Center. The WE&T staff collaborated with the Customer Generation department to provide time of use and interconnectivity information at the workshop with over 100 homeowners participating.

SDG&E continued to collaborate with the National Electrical Contractors Association (NECA) 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 the training instructors. These organizations also help promote other types of educational seminars/trainings to their members and provide feedback when new energy efficiency trainings are of interest or are needed for their members.

SDG&E also offers a food service component that includes a demonstration kitchen at the Energy Innovation Center. Commercial food service operators can view an equipment demonstration or test their menu concept on energy efficient equipment prior to purchasing. In addition to the hands-on demonstrations, educational seminars are provided and offer knowledge on energy- and water-efficient technologies and practices to reduce energy use in commercial kitchens. For the first time, the San Diego Unified School District hosted a foodservice training class for their kitchen staff. In total, an estimated 43 demonstrations, three consultations, and four seminars were offered throughout the year.

Multifamily operations and maintenance training was offered to specifically target

the property management of multifamily apartment complexes. Property management staff was trained on how to use and maintain the operations and maintenance binder documents, benchmarking to monitor building energy use, identifying systems and equipment that needs commissioning, and how to identify opportunities to reduce energy use including how to implement system and equipment updates. The Property Management staff also received hands-on experience with common systems, learning how to review operating conditions and adjust set point controls to maximize efficiency. They also learned to identify the performance of building equipment and established a process for preventive maintenance to ensure maximum system performance. Due to the success of the first training, an additional training was scheduled for the later part of 2018.

The Resource Lending Library loaned an estimated 441 books and tools including accessories and served approximately 151 customers. SDG&E worked jointly with Pacific Gas and Electric (PG&E) to implement myTurn, a new software system to manage the inventory of the resources to create a smoother customer experience through a more efficient check out process.

SDG&E worked with a new vendor to provide a comprehensive training for realtors, appraisers, inspectors, and lenders. This is the first time WE&T has targeted this industry. WE&T offered over 5 of these trainings to educate the real estate professionals in this industry on the value of energy efficiency when buying and selling a home in the residential market.

SDG&E partnered with various workforce development organizations, to target disadvantaged workers. One workforce organization in particular offers hands-on trainings to their students between the ages of 18 to 26 to maintain the Center's demonstration garden. WE&T staff worked directly with other workforce organizations to recruit disadvantaged workers to attend certification trainings in Home Performance and certificate programs in Energy Efficiency Sales.

The WE&T staff collaborated with SDG&E's Business Services Department to offer a targeted workshop on Compressed Air Systems. Approximately 27 business customers attended.

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. The Connections Subprogram achieves its energy efficiency educational goals by facilitating energy efficiency strategic planning and educational programming 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. Approximately 11,400 students were reached at K-12 schools. Over 68% of the schools participating are Title-1, supporting opportunities for disadvantaged students. In 2018, approximately 29 student events were held at the Energy Innovation Center, bringing students onsite to learn about energy efficiency and green career awareness.

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 state's 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.

Implemented Strategies:

In 2018, the Strategic Planning subcomponent of WE&T was officially closed via

Advice Letter. The Strategic Planning sub-program and funding were established to implement strategies at a statewide level for WE&T. The team has agreed that these strategies have been exhausted and there is no longer a need for this sub-program.

M. Third Party Programs

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

Program Description:

The Middle Income Direct Install (MIDI) 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:

In 2018, the MIDI program the Family Electric Rate Assistance (FERA) email 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 the approximately 3,000 leads (customers exceeding eligibility requirements) provided through the Family Electric Rate Assistance (FERA) over-income report. As SDG&E looks to further coordinate with low income programs and consolidate vendors across energy efficiency and low income, it is anticipated that penetration will improve as a result. SDG&E will continue to look for alternatives to improve penetration in 2019 and beyond. SDG&E will work to automate the FERA and ESA over-income reports to supply its contractors with access to those leads.

As a result, the MIDI programs reached 342 single family households within SDG&E's service territory. Furthermore, in 2018 the MIDI program successfully delivered a comprehensive mix of offerings ranging from Smart Programmable Thermostats, to AC Diagnostics, to Low flow showerheads to name a few. The program operated via a Direct Install delivery mechanism which yielded little to no cost for customer participation. These efforts made throughout 2018 assisted the program's participation, helped to raise program awareness with qualifying customers and further promoted the benefits of energy efficiency across SDG&E'S service territory.

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 Program 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.

Implemented Strategies:

The program trained approximately five new contractors to achieve additional energy savings and continued to work with existing QM contractors from the previous program year to improve customer follow up and address post-contractor referrals.

Additionally, marketing was increased in Q4 by both the third-party implementer, as well as their contractors, to target specific more than 1,400 eligible customers. Training materials, applications and inspection checklist forms were updated twice in 2018 to ensure accuracy and relevant guidance. Printed and e-mail campaign materials were also refreshed to reflect the current program with an informational email going to previous participants. Investigation of social media channels to utilize for marketing efforts was also conducted.

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

Program Description:

The Non-Residential HVAC Tune-up/Quality Installation Program is designed to stimulate the supply and sales of premium-efficiency HVAC systems and to provide energy efficiency tune-up services to commercial customers. It provides incentives to participating customers, contractors, and equipment specifier/end users who install qualifying air conditioning systems or controllers in commercial replacement and new

construction applications, or who participate in program tune-up services. The program includes six subprograms: 1) Statewide Upstream; 2) Statewide Commercial Quality Maintenance; 3) Commercial Quality Installation; 4) Local Area Tune-ups; 5) Local Area Equipment Replacement; and 6) Local Area Hotel/Lodging.

Implemented Strategies:

In 2018, the third-party vendor launched a new customer facing website to allow for greater accuracy and accessibility throughout the reservation process, as well as real-time visibility into projects for contractors and distributors. Additionally, Verification Service Provider (VSP) standards were more clearly defined and VSPs were required to agree to program terms and conditions prior to providing services to program contractors.

Additional strategies included a deeper focus on Upstream equipment which resulted in more than 1,600 installed controllers, and an increased incentive for the Advanced Climate Controller to accommodate Trade Ally demand which had a positive effect on the delivery of this measure in 2018. Lastly, more effective contractor marketing and support efforts culminated in a strong demand for Tune-Up and Quality Maintenance services.

4. 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 2018 and continued to provide its contractors with training to help improve energy audits and drive higher savings.

As part of the Water Energy Nexus Initiative, a separate contract was established

with a Direct Install contractor to incorporate Moulton Niguel Water District measure rebates for eligible food service water-saving measures also offered through the Direct Install Program. The Direct Install contractor will offer the eligible customers both rebates at the time of purchase and provide installation services. At the end of 2018, a contract was also drafted with the San Diego County Water Authority to provide the same services.

Direct Install partnered with the Multi-Family Rebate programs to offer a comprehensive outreach campaign targeted to multi-family customers that have one or more commercial accounts such as common areas or offices. This would provide a one-stop-shop for those customers that could benefit from rebates from both residential and non-residential energy efficiency programs. A comprehensive audit is provided by a third-party contractor and rebate and incentive recommendations are compiled and presented to the customer in one report with all parties involved in developing a plan of action.

5. SDGE3230 (3P) SW-IND-Customer Services - Audits Comprehensive Industrial Energy Efficiency Program (CIEEP)

Program Description:

The Comprehensive Industrial Energy Efficiency Program 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:

This program remained open in 2018 to allow projects that were currently in the pipeline to be completed prior to an agreed upon date that SDG&E outlined in the final amendment with the vendor. The agreement expired at the end of the 2nd quarter of 2018 and no other activities occurred within the program. This program is no longer active and all audit related activities performed by this program have been consolidated into SDG&E's Comprehensive Audit Program (CAP).

6. 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 are also eligible to participate in the program. To achieve energy savings, this program covers the cost of pump tests for SDG&E customers. The program provides the customers with an operational plant efficiency report, energy cost savings analysis and incentive program assistance. The reduction in water use will also translate to embedded energy savings, as reduced water use means less energy required to run and deliver water to a water pump.

Implemented Strategies:

The agricultural sector is one of SDG&E's smallest sectors and there have been some challenges engaging customers. The Pump Test Services Program did not have any customer participation in 2018, and therefore program funds were shifted to agricultural sector customers via the Streamlined Ag Efficiency Program. SDG&E believes a completely new approach to better serve this market is warranted as described in its Rolling Portfolio Business Plan.

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

Program Description:

The Water Infrastructure and System Efficiency (WISE) Program addresses 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 to improve energy efficiency and lower energy costs. The program also encourages customers to enroll in demand response programs and assists customers in evaluating IDSM opportunities.

Implemented Strategies:

The WISE Program performed in depth analysis on water pump systems for customers to help them make decide whether to retrofit, repair or replace equipment. Within the SDG&E service territory, only commercial customers are enrolled in the program.

As a result of the 2018 Business Plan Decision, a 2020 statewide pilot will be implemented by a vendor to be selected by SCE. Given these projects take 1-2 years to get completed, no new projects are being accepted by the existing program and subsequently there will not be further opportunity for industrial customers to participate until the new program is rolled out.

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

Program Description:

The WISE Program addresses 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 to improve energy efficiency and lower energy costs. The program also encourages customers to enroll in demand response programs and assists customers in evaluating IDSM opportunities.

Implemented Strategies:

The WISE Program performed in depth analysis on water pump systems for customers to help them make decide whether to retrofit, repair or replace equipment. 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. In 2018,

wastewater agencies enrolled in the program for pump tests, individual pump efficiency analysis, and pump system efficiency evaluation. Participating customers then enrolled in the Energy Efficiency Business Incentive Program to take advantage of the incentives to retrofit, repair, and replace their pumps and pump systems.

As previously stated for program SDGE3291, a 2020 statewide pilot will be implemented by a vendor to be selected by SCE. Given these projects take 1-2 years to get completed, no new projects are being accepted by the existing program. Approximately 3 projects were completed in 2018 and approximately 6 projects are expected to be completed in 2019.

7. 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. 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:

The CMMH Program continues to be successfully implemented as a one-touch customer approach serving a hard to reach and disadvantaged customers segment in the SDG&E service territory. The program implemented changes in 2018 to increase the program's cost effectiveness, such as eliminating measures with low cost effectiveness and working with the program contractor to identify measures targets for certain climate zones. which allowed SDG&E to achieve the program goal of maximizing ratepayer dollars while incentivizing the installation of energy efficient products. SDG&E will continue to take this approach to program management in 2019 and beyond so that the CMMH Program remains a viable option for energy efficiency offerings.

As a result, in 2018 CMHH reached over 3,279 mobile-manufactured homes. Furthermore, by approaching the program's offerings from a cost-effect centric outlook this allowed SDG&E to achieve the program goal of maximizing ratepayer dollars while

incentivizing the installation of energy efficient products. These efforts resulted in the CMHH program successfully delivering a comprehensive mix of offerings ranging from Smart Programmable Thermostats, to AC Diagnostics, to Low flow showerheads to name a few. The program operated via a Direct Install delivery mechanism which yielded little to no cost for customer participation. These efforts made throughout 2018 assisted the program's participation, helped to raise program awareness with qualifying customers and further promoted the benefits of energy efficiency across SDG&E'S service territory.

8. 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 2013-2019 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, year-round solicitations 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 2018, SDG&E did not complete any Request for Abstracts (RFA) solicitations through IDEEA 365. Instead, the Rolling Portfolio Business Plans were approved the solicitation process began in accordance with the requirements of D.18-01-004. SDG&E may issue another round of IDEEA365 solicitations if it is determined there is opportunity to utilize the IDEEA 365 program concept of new and innovative programs. This would occur later in the solicitation process and is not likely in program-year 2019.

9. 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 Program. EAP is designed to educate hard to reach, small and medium business customers about energy savings opportunities, support installation of incremental cost effective energy efficiency projects, and achieve savings for SDG&E through facilitating rebates and incentives for energy efficiency measures. The 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.

The EAP recruits customers in SDG&E's territory by partnering with lenders serving the small to medium business market, including Certified Development Corporations that lend on behalf of the Small Business Administration (SBA) and offer the SBA 504 loan product. Other lenders include community-based, property assessed, clean energy, 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 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's account executives, local community-based organizations (CBOs), industry associations, chambers of commerce and targeted trade allies/contractors.

Once a customer is referred to the program, EAP offers a range of no cost technical assistance to identify and quantify energy efficiency opportunities. 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 2018, EAP successfully enrolled roughly 63 business customers into EAP, including hotels, office buildings, grocery stores, restaurants, commercial and manufacturing facilities. These customers received technical support in the form of an onsite audit, customer support, and project implementation support. In total EAP identified over 2,000,000 kWh and around 80,000 therms in cost effective energy savings, with more than 30 customers participating in EEBR and just about 100 participating in BES, with several EEBI applications pending, 1 OBF ozone laundry project pending and 4 SBD projects in the various stages. There are at least 6 more ozone projects that are interested in implementing, based on the customers' feedback on the existing projects.

In 2018, EAP subcontracted nearly 30.6% spending towards the Diversity Business Enterprise spending (DBE) goal of 30%. This is equivalent to meeting close to 102% of the DBE goal which is in compliance for this KPI.

10. SDGE3322 (3P) – Streamlined Ag Efficiency Program

Program Description:

The Streamlined Ag Efficiency (SAE) Program commenced in June 2017. The program provides individualized service to agricultural producers and on-farm processors to identify efficiency opportunities, develop and evaluate implementation options, and apply for incentive and rebate funding. The ultimate goal of the SAE Program is healthy participation, and growing sector savings and a vendor community able and willing to articulate the benefits of energy efficiency to their customers.

Implemented Strategies:

The program uses field engineers to build relationships with vendors, associations, government agencies, and other key stakeholders in the realm of the agribusiness market.

These relationships enable the program to identify and influence prospective customers to consider upgrades to their equipment. The field engineers then manage the application process, information collection, inspections and M&V in an end-to-end way that minimizes transaction costs for the customer.

Approximately 15 applications were received in 2018, the first full year the program operated. A number of these ended up being cancelled due to a change in customer priorities, budget concerns or non-responsiveness. A very large project did come in late in 2018 for which installation is expected to complete in 2019. The third program implementer continues to build and leverage the relationships mentioned above as the program begins to grow in its second full year.

11. SDGE4061 (3P) – Facility Assessment Services

Program Description:

This new program was established to meet the requirements of Resolution E-4820 Ordering Paragraph 1(e): The IOUs are required to "launch small and medium business pay-for-performance programs by the Fourth Quarter of 2017." in compliance with Assembly Bill (AB) 793.

The Facility Assessment Services Program uses a combination of interval energy usage data, energy consulting services, and energy management software to provide businesses with facility specific, action-based solutions. Program participants enroll by providing their interval data to the contractor through third-party authorization forms, which is analyzed to identify low and no-cost operational and maintenance focused energy saving opportunities at their facility.

Implemented Strategies:

SDG&E conducted a solicitation in the fourth quarter of 2017 and one contractor was selected in early 2018 to implement their winning proposal for the Facility Assessment Services Program. The contract was developed and then executed mid-2018. The Program was officially launched in late 2018 with multiple projects in the pipeline. The contractor is leveraging existing relationships with nationwide chain accounts to reach local SDG&E

chain customers. At the end of 2018, the contractor started projects with the City of San Diego Libraries. The Program will continue adding additional projects throughout 2019.

N. Pilot Programs

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

Program Description:

Prop 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 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) C&S 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 (e.g., 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 IOUs will produce materials, publications and trainings 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.

Implemented Strategies:

SDG&E accepted its first project in 2015, the Vista Grande Elementary School, which is part of the San Diego Unified School District. The two-story, 55,000 sq. ft. facility's internal lighting upgrade has already been performed at the site. The contractor was recently chosen and the rest of the measures for the project will be completed by the end of 2019. The measures include exterior lighting upgrade, HVAC upgrades, controls and sensors, plug load management, building envelope improvements, and PV installation. 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 Portfolio Manager score of 100. The school has completed its energy modeling and its energy measure by upgrading the building envelope and the HVAC system, installing LED lighting for the interior and exterior, installing plug load controllers, sensors and controls, and adding more PV to their existing system. With the upgrades completed, measurement and verification is now being performed to validate their energy usage and by the end of 2019 we will be able to determine if the building can be deemed a ZNE verified building.

O. High Opportunity Project or Programs (HOPPs)

1. SDGE3317 HOPPs Retrocommissioning (RCx)

Program Description:

In response to the Commission's Ruling regarding HOPPs, dated December 30, 2015, SDG&E designed its HOPPs 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 HOPPs RCx Advice Letter 2864-E on March 1, 2016, and it was approved by the CPUC on August 3, 2016, effective July 27, 2016.

HOPPs RCx is designed to ensure persistence of savings by requiring customers to commit to a three-year maintenance plan. This program replaced SDG&E's previous RCx Program at the end of 2016.

Implemented Strategies:

At the start of 2018, the HOPPs RCx program had seven enrolled projects, one in the process of completing the RCx investigation and six others under active implementation. Over the course of 2018, the program supported these customers with detailed technical assistance with measures, as well as regular progress checks to assist with tracking and coordinating activities of installation contractors. The program assisted with verification of implementations through onsite inspections and short-term trending, made any necessary adjustments to savings calculations, and conducted training for every customer on requisite maintenance activities to ensure persistent savings. By the end of 2018, the program concluded implementation, verification and training for six projects. These six projects have advanced to the next 3-year monitoring phase. The program made updates to the project database to support the tracking of these projects during the monitoring period.

The program's marketing and outreach activities to recruit new participants were somewhat limited in 2018, due in part to the focus on completing existing projects, and also due to uncertainties arising from the timing of Rolling Portfolio Solicitations. Five applications were received and screened, which led to three new project enrollments and investigations. As a result, several projects carry over into 2019 for implementation and verification. 2019 will also include a focus on monitoring, measuring and maintaining savings. Post implementation check-ins will be conducted with all customers to review maintenance activities and collect information on facility updates and/or changes. The first such check-in was conducted in late 2018 and it provided valuable information about additional energy projects the customer was contemplating, though in this case had not actually implemented. Such projects are tracked for potential non-routine adjustments to monitored savings estimates. At the one year check in, each project's savings will be recalculated and reported to SDG&E. Persistent savings will be eligible for and receive the remaining portions of the customer incentive.

A secondary alternative path for HOPPs RCx, the self-sponsor path, was created in 2017. Under this approach, SDG&E works with eligible customers to identify potential projects to demonstrate measured savings under existing conditions, pay for performance,

and comprehensive whole-building approach to building efficiency. Different from the third party implemented path where an authorized vendor manages the process and program, a self-sponsored project includes roles held by SDG&E, the customer and any third party hired by the customer. The self-sponsored path follows the same guidance as laid out in the Commission's Ruling regarding HOPPs and ensures persistence of savings. This is done by restructuring the previous incentive process and stretching the incentive out through four payments over three years. Self-sponsored customers can use their own staff or contracted commissioning (Cx) agents to perform measurement and verification of the work performed during the installation and at the end of each year of the maintenance plan phase of a project.

This approach is targeted to meet the needs of a niche set of customers, for whom a three-year commitment of persistent savings exists. SDGE works closely with potential customers to identify a unique set of projects to meet the requirements for this alternative path.

Such monitoring, particularly through NMEC, has been emphasized by the legislature and CPUC through recent laws and decisions, such as AB 793 and AB 802. Looking ahead, SDGE anticipates 2019 to include a focus on continued project identification to include long term monitoring, measurement and maintenance of savings.

2. SDGE3318 HOPPs Multifamily

Program Description:

The Multifamily HOPPs focuses on early replacement measures in common areas. The Multifamily HOPPs implements via common area measure categories to augment various other program offerings serving multifamily tenant spaces. The target market for the program is high energy use intensity (EUI), multifamily buildings built prior to 1980, regardless of income qualification or location. The Multifamily HOPPs implements a direct install approach for common area measures to address challenges faced to-date engaging property owners on making energy efficiency upgrades to their properties. The Multifamily HOPPs also focuses on developing benchmarks, collecting data for potential case studies, and return on investment calculations for common areas in these targeted

buildings.

Implemented Strategies:

In 2018, the contractor successfully completed common area retrofits at multiple multifamily property locations. The properties were primarily identified by two methods: 1) via targeting high EUI multifamily properties that had previous participation in other rebate programs; and 2) via county assessor data provided by a third party consultant that documented details (age, number of units, amenities, etc.) of the territory's properties that were evaluated by SDG&E. These two methods combined, allowed a more cost effective and streamlined enrollment due to customer familiarity with IOU programs and increased likelihood of customer eligibility before visiting the site. It was also noted that in some cases the property manager does not typically have the SDG&E account and meter numbers onsite to allow benchmarking data collection, which did cause delays in the process. Nevertheless, once proper analysis was performed worked ensued and energy efficiency was promoted in this specific market segment within SDG&E's Residential multi-family sector.

As a result, the program was successful in targeting measures that are typically ignored by property owners and managers – such as common area water heaters/boilers – due to the higher initial cost for these types of measures. Furthermore, the MF-HOPPs program reached 42 high-opportunity complexes in 2018 which exceeded the contracted goal amount of 40 for the year. However, with the implementation of the Commission's "Comprehensive Workpaper Disposition for: Screw-in Lamps – Revisions to Disposition Originally Issued on March 1, 2017," SDG&E sunset the MF-HOPPs Program at the end of 2018. This was primarily because many of the LED measure offerings through the program were offered by means of a Direct Install channel, and, therefore were rendered less than cost-effective by the resultant adjusted savings of the Disposition, ultimately, leaving the program to no longer be cost-effective. Nevertheless, per the programs Implementation plan SDG&E will still be performing a post-retrofit NMEC analysis of a sample of treated sites to verify the measures are still installed and operating as intended. The results will be shared with the customer to provide feedback on realized savings and to further promote

energy efficiency within this market segment.

P. SDGE3324 Water Energy Nexus Initiatives

Program Description:

The California Water Plan is the state's Strategic Plan for managing and developing water resources statewide for current and future generations.[2] 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 which is intended to develop policies that will promote a partnership framework between energy 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. The Commission's ultimate goal is to "reduce energy consumption by the water sector in supplying, conveying, treating, and distributing water."[3]

The Commission issued several decisions described below that would promote these WEN objectives.

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.[4]

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.[5] This decision also set the requirements for the IOUs to report

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[2] The California Water Plan is available at http://www.water.ca.gov/waterplan/about_us/index.cfm.

[3] *Decision Granting petition and Opening Rulemaking*, December 30, 2013 is available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M084/K481/84481715.PDF.

[4] *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.

[5] *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.

WEN activities beginning with the 2016 Energy Efficiency Annual Reports due in 2017.[6]

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 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."[7]

D.16-12-047 provides direction for next steps to: (1) update the WEN calculator and connect it to the energy efficiency 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.[8]

1. Water Energy Nexus (WEN) Calculator and Measure Workpaper Activities

In 2017, SDG&E as the lead utility worked with the IOUs to develop and submit the WEN statewide workpapers for deemed measures offered by the IOUs and Metropolitan Water District. The statewide workpaper was submitted in May and gained pass through approval in June.

In August of 2017, the Statewide Water Energy Action Plan was filed; it offered recommendations on how to address GHG emission values, the Cost Effectiveness Tool, the WEN Calculator, DEER updates to include water saving and the natural gas intensity value. On December 18, 2017, the Commission issued D.17-12-010, Decision Resolving the Petition for Modification of Decision 16-12-047, Adopting the Plan of Action, and Closing Rulemaking, which adopted the recommendations from the Plan.

In 2018, SDG&E and the San Diego County Water Authority initiated the implementation of the Strategic Framework document that identified areas of potential joint program offerings that would benefit energy and water customers. The areas of focus

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[6] *Id*. at 21.
[7] *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.
[8] *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.

were audits, indoor water end use, outdoor water end use, and custom projects. 2018 activities focused on designing and implementing joint programs serving residential low income, commercial kitchen, and agricultural customer segments.

2. Advanced Metering Infrastructure Pilot Activities

SDG&E partnered with Rainbow Municipal Water District (RMWD) and Itron Corporation (Itron) to implement the Advanced Meter Infrastructure Pilot. The pilot tested the feasibility of "piggybacking" RMWD water meter data across the SDG&E Smart Meter Network to an Itron-hosted analytics system.

The pilot was implemented in 2017. Thirty-six AMI communication water modules were installed in field. In late December 2017, the modules began communicating to the Itron hosted Data Center. Initial results were positive, but due to some configuration and network communication issues there was a delay in getting the interval data to RMWD. Itron began providing RMWD interval data for evaluation and analysis in 2018. Additional water modules were planned for installation in 2018 when infrastructure was extended to the target geographies, but joint agreement was reached to limit the pilot location. The AMI WEN Pilot Final Report will be completed in 2019.

3. WEN Programs and Activities

In 2018, SDG&E expanded its work with Moulton Niguel Water District (MNWD) by initiating discussions to expand the WEN initiatives forged with SDCWA into MNWD's service territory. SDG&E's 2018 work included in-person planning meetings, program design, contractor discussions, and contracting. Implementation is expected in 2019.

4. WEN Programs Energy and Water Savings

The table below reflects the 2018 WEN measures offered under SDG&E's energy efficiency and ESA programs and the savings achieved.

PrgID	EE ProgramName	Measure	Quantity	Total Water Savings (Gallons)	Total Average Annual KWH Savings	Total Average WEN KWH Savings
SDGE3203	SW-CALS-Plug Load and Appliances-HEER	Water Saving Kit	21,632	67,113,280	174,166	310,784
SDGE3203	SW-CALS-Plug Load and Appliances-HEER	Clothes Washer - Front Loading - Energy Star Most Efficient	741	1,016,652	2,637	4,704
SDGE3204	SW-CALS-Plug Load and Appliances-POS Rebates	Clothes Washer - Front Loading - Energy Star Most Efficient	323	1,644,716	4,267	7,619
SDGE3207	SW-CALS-MFEER	Kitchen Faucet Aerator (SFm and DMo Use Only)	2,577	1,410,908	3,664	6,542
SDGE3207	SW-CALS-MFEER	Low Flow Showerheads	2,744	5,508,580	14,296	25,524
SDGE3211	Local-CALS - Middle Income Direct Install (MIDI)	Kitchen Faucet Aerator (SFm and DMo Use Only)	51	27,923	73	129
SDGE3211	Local-CALS - Middle Income Direct Install (MIDI)	Low Flow Showerheads	211	423,583	1,099	1,963
SDGE3223	SW-COM-Deemed Incentives-Commercial Rebates	Ozone Laundry System	3,281	9,150,709	23,741	42,389
SDGE3226	SW-COM Direct Install	Pre-Rinse Spray Head In Restaurants - 1.15 GPM	207	1,133,325	2,940	5,250
SDGE3279	3P-Res-Comprehensive Manufactured-Mobile Home	Kitchen Faucet Aerator (SFm and DMo Use Only)	225	123,188	320	571
SDGE3279	3P-Res-Comprehensive Manufactured-Mobile Home	Low Flow Showerheads	806	1,618,045	4,192	7,454
		Totals		**89,170,907**	**231,395**	**412,927**
	Energy Savings Assistance (ESA) Programs					
		High Efficiency Clothes Washer	313	1,593,796	4,135	7,383
		Faucet Aerator	13,325	7,295,438	18,945	33,825
		Low Flow Shower Head	7,336	14,727,020	38,219	68,237
		Totals		**23,616,254**	**61,299**	**109,445**
	Other ESA Measures (No Workpapers for WEN Savings)					
		Water Heater Blanket (per home)	219		62	
		Water Heater Pipe Insulation (per Home)	243		2	
		Water Heater Repair/Replacement	768		-	
		Thermostatic Shower Valve	3,760		9,150	
		New - Combined Showerhead/TSV	2		-	
		New - Tub Diverter/ Tub Spout	9		65	
		Totals			**9,279**	
	All Program Totals			**112,787,161**	**301,973**	**522,372**

Q. Other Energy Efficiency Activities and Programs

1. SDGE3259 SW-ME&O

Program Description:

The Statewide Marketing, Education, and Outreach (ME&O) Program is implemented by DDB San Francisco. Statewide ME&O is centered on the Energy Upgrade California (EUC) campaign, a statewide educational campaign that aims to lead consumers to products, services, and rates that empower all Californians to take actions that will lead to lower bills, higher energy efficiency, and more customer-owned renewable energy technologies. DDB is the statewide administrator and implementer of this campaign and submits the Annual Report (known as the Joint Consumer Action plan or JCAP). This program is tracked separately from the general energy efficiency portfolio.

Implemented Strategies:

SDG&E serves in a supportive and consultative role. SDG&E's ME&O staff actively participates in ongoing collaboration efforts between DDB and the IOUs at the EUC quarterly stakeholder meetings, regular calls, joint community events, media appearances, and other opportunities as agreed upon with the statewide ME&O administrator. SDG&E provides regular feedback and input to the statewide ME&O strategies and creative executions.

2. SDGE3281 EM&V – Evaluation Measurement and Verification

Program Description:

SDG&E EM&V team works within the statewide EM&V framework and is party to most statewide EM&V studies. The EM&V budget is used to support the statewide EM&V teams in conducting and managing ongoing study activities to produce various market studies, process evaluations, and the like. In addition to managing or participating in statewide studies, the EM&V team supports the programs through providing feedback gathered from the studies, assisting with response to recommendations, and attending various project coordination group meetings.

3. Statewide New Finance Offerings

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

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

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

SDGE3325 SW-FIN – Finance Pilots – SDG&E Administration

Program Description:

In D.12-11-015, the Commission authorized $75.2 million for new energy efficiency financing pilot programs to be implemented in 2013-2014. However, due to the complexity of the process to design and implement these innovative new pilots, the pilot period lasted beyond 2014. In D.13-09-044, the Commission approved a series of financing pilot programs covering both residential and non-residential markets, and further extending the pilot period to 2015. Subsequently, D.15-06-008 further extended the pilots' terms beyond 2015 so that each pilot is funded for a full 24 months of operation with no additional budget, as approved originally in D.12-11-015. Lastly, D.17-03-026 authorized continued utility pilot support and funding. Ordering Paragraph 7 of the Decision states:

> Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company shall be authorized to spend up to $500,000 annually and Southern California Gas Company shall be authorized to spend up to $800,000 annually, beginning in 2017 and ending at the end of 2020 for information technology, marketing, and administrative costs necessary to support the financing pilot programs. Each utility shall file a Tier 2 advice letter containing details of the costs to be covered and proposing the funding source, whether energy efficiency program funding

previously authorized or incremental funding, and explaining the rationale for its proposal.

Accordingly, in 2017, SDG&E filed Advice Letter 3147-E/2625-G with information on its 2017-2020 annual program budgets. SDG&E's Advice Letter was approved effective January 1, 2018. These pilots are tracked separately from the standard energy efficiency program portfolio.

The financing pilots are administered by the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) and 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. Some of the pilots will also include an On-Bill Repayment (OBR) feature.

Implemented Strategies:

The first pilot to launch was the Residential Energy Efficiency Loan (REEL) Assistance Program. The initial two-year pilot period concluded in 2018; however, the pilot is expected to continue to be implemented through its evaluation period, at which point the CPUC will consider its continuation and/or potential modifications. In 2018, participating lenders funded approximately 20 projects in SDG&E's service territory, with a combined project cost of over $275,000. Throughout the year, SDG&E worked alongside the statewide finance marketing, education and outreach administrator, the Center for Sustainable Energy, to increase the program's effectiveness and facilitate loan volume by targeting homeowners through local, targeted marketing efforts, such as digital advertising campaigns and social media posts.

SDG&E continues to work collaboratively with CAEATFA and other program stakeholders on the development of the remaining pilots. The regulations for the small business pilot, known as the Small Business Energy Efficiency Financing Program (SBF), took effect in December 2018, at which point, the program opened for finance company enrollment. The pilot is expected to launch as an off-bill program in 2019, followed by the Affordable Multifamily Pilot, which will leverage elements of the SBF program structure. Meanwhile, CAEATFA continues to research and develop OBR, which is expected to be an

added feature in 2020 and key component of the pilot programs, including a future non-residential pilot.

SECTION 1 - ENERGY SAVINGS

The purpose of the following table (Table 1) is to report the annual impact of the energy efficiency portfolio of programs implemented by SDG&E for the 2018 program year. The annual impacts are reported for 2018 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 (ESAP) 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.)

A		B	C	D
Table 1 *Electricity and Natural Gas Savings and Demand Reduction (Net)*				
Annual Results		**2018 Installed Savings**	**CPUC 2018 Adopted Goals (D.17-09-025)**	**% of Goals (2018)**
2018 Energy Savings (GWh) – Annual				
	SDG&E	441	201	219%
TOTAL Energy Savings (GWh) - Annual				
2018 Energy Savings (GWh) – Lifecycle				
	SDG&E	5,448		
TOTAL Energy Savings (GWh) – Lifecycle				
2018 Natural Gas Savings (MMth) – Annual				
	SDG&E	1.38	3.30	42%
TOTAL Natural Gas Savings (MMth) – Annual				
2018 Natural Gas Savings (MMth) – Lifecycle				
	SDG&E	1.87		
TOTAL Natural Gas Savings (MMth) – Lifecycle				
2018 Peak Demand savings (MW)				
	SDG&E	131	44	299%
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 2018 program year. Parties agreed that the impacts should be in terms of annual and lifecycle tons of CO_2, NOx, 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 PM10 avoided**	**Lifecycle tons of PM10 avoided**
2018Portfolio Targets						
SDG&E	139,843	1,774,371	66	815	32	438
2018 Total	**139,843**	**1,774,371**	**66**	**815**	**32**	**438**

SECTION 3 - EXPENDITURES

The purpose of Table 3 is to report the annual costs expended by SDG&E in implementing the 2018 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 Energy Division-managed studies.

See Appendix D for Table 3.

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 2018 program year.

Table 4

Cost Effectiveness (Net)

Annual Results	Total Cost to Billpayers (TRC)	Total Savings to Billpayers (TRC/PAC)	Net Benefits to Billpayers (TRC)	TRC Ratio	Total PAC Cost	PAC Ratio	PAC Cost per kW Saved ($/kW)[1]	PAC Cost per kWh Saved ($/kWh)	PAC Cost per therm Saved ($/therm)2
SDG&E 2018	$243,626,812	$420,349,577	$176,722,765	1.73	$ 92,566,112	4.54		0.03	65.56
TOTAL	**$243,626,812**	**$420,349,577**	**$176,722,765**	**$1.73**	**$ 92,566,112**	**$4.54**	**$-**	**$0.03**	**$65.56**

Footnote 1: The adopted avoided cost methodology does not provide information to provide a meaningful value for PAC Cost per kW.

Footnote 2: PAC Cost per therm includes negative interactive therm effects from lighting measures.

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

2018	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 ($)
[PA] Average	$0.237	$0.300	$104,930,751	$ 1,291,737,000
[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 Net Savings By Use Category 2018 Only

Use Category	GWH	% of Total	MW	% of Total	MMTh	% of Total
Appliance or Plug Load	18.46	4.18%	2.37	1.80%	0.13	9.45%
Building Envelope	4.88	1.11%	1.09	0.83%	0.1	7.09%
Compressed Air	1.08	0.25%	0.08	0.06%	0	0.00%
Commercial Refrigeration	6.54	1.48%	0.99	0.75%	-0.03	-2.07%
Codes & Standards	8.71	1.97%	1.38	1.05%	0	-0.01%
Food Service	0.06	0.01%	0.01	0.01%	0.04	3.27%
HVAC	32.3	7.32%	11.65	8.86%	0.49	35.76%
Irrigation	0	0.00%	0	0.00%	0	0.00%
Lighting	285.46	64.70%	45.68	34.74%	-2.76	-200.83%
Non-Savings Measure	0	0.00%	0	0.00%	0	0.00%
Process Distribution	0.71	0.16%	0.06	0.05%	0	0.00%
Process Drying	0	0.00%	0	0.00%	0	0.00%
Process Heat	1.19	0.27%	0.07	0.06%	0.26	19.15%
Process Refrigeration	0	0.00%	0	0.00%	0	0.00%
Recreation	2.68	0.61%	0.53	0.41%	0.01	0.58%
Service	0	0.00%	0	0.00%	0	0.00%
Service and Domestic Hot Water	4.52	1.03%	0.24	0.18%	1.31	95.06%
Whole Building	74.62	16.91%	67.34	51.21%	1.82	132.57%
ANNUAL PORTFOLIO SAVINGS	**441.21**	**100.00%**	**131.48**	**100.00%**	**1.38**	**100.00%**

SECTION 7 - COMMITMENTS

The purpose of the following table (Table 7) is to allow the utilities to report commitments (contractual or incentive) that will produce savings after December 2018. 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 [1]	Expected Energy Savings		
2010-2012[1]	$	GWH	MW	MMth
Resource	$ 0.00	-	-	-
Non-Resource	1,168,193	-	-	-
Codes & Standards	-	-	-	-
[PA] Total	$ 1,168,192.64	-	-	-

Commitments Made in the Past Year with Expected Implementation after December 2013-2015				
	Committed Funds[2]	Expected Energy Savings		
2013-2015[2,4]	$	GWH	MW	MMth
Resource	$ 7,227,401.56	0.04	0.01	0.01
Non-Resource	2,499,820	-	-	-
Codes & Standards	342,391	-	-	-
[PA] Total	$ 10,069,612.63	0.04	0.01	0.01

Commitments Made in the Past Year with Expected Implementation after December 2016				
	Committed Funds [3]	Expected Energy Savings		
2016 [3]	$	GWH	MW	MMth
Resource	204,891	0.48	0.08	0.01
Non-Resource	4,047,314	-	-	-
Codes & Standards	-	-	-	-
[PA] Total	$ 4,252,205.62	0.48	0.08	0.01

Commitments Made in the Past Year with Expected Implementation after December 2017				
	Committed Funds [3]	Expected Energy Savings		
2017 [3]	$	GWH	MW	MMth
Resource	$ 3,462,878.42	11.64	1.83	0.25
Non-Resource	4,051,311	-	-	-
Codes & Standards	-	-	-	-
[PA] Total	$ 7,514,189.15	11.64	1.83	0.25

Commitments Made in the Past Year with Expected Implementation after December 2018				
	Committed Funds [3]	Expected Energy Savings		
2018 [3]	$	GWH	MW	MMth
Resource	$ 3,731,772.02	3.77	0.32	0.04
Non-Resource	$ 4,092,501.00	-	-	-
Codes & Standards	-	-	-	-
[PA] Total	$ 7,824,273.02	3.77	0.32	0.04

[1] Note: 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] Note: 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] Note: Committed funds are associated with the 2016, 2017, 2018 program years, respectively. These funds are reserved or encumbered for future work permitted per the EESTATS CPUC Guidence Document and EE decision (D.15-10-025).

[4] The amounts reported in Committed Funds include SDG&E's Energy Efficiency Finance Pilots remaining balance from unspent funds 2013-2017, or funding requested from Balancing Accounts as approved in Advice Letter 3147-E/2625-G. The remaining balance/unspent funds associated with the Financing Pilots at the end of 2018 is $6,300,749

SECTION 8 - SHAREHOLDER PERFORMANCE INCENTIVES

The purpose of the following table (Table 8) is to report SDG&E's forecasted and actual efficiency savings and performance incentives.

Table 8
Shareholder Incentives (Energy Savings Performance Incentives-ESPI)

Program Year	2013	2014	2015	2016	2017	2018
Forecast*	$5,720,473	$6,081,613	$3,000,000	$3,135,968	$4,500,000	$4,500,000
Actual**	$5,275,232	$5,063,415	$4,654,855	$3,859,276	NA	NA

* forecasted ESPI payments for PY X as submitted in the forcasted budget AL for PY X (this number has to be forecasted ESPI payments for the same PY the IOUs are requesting budgets for)
** actual ESPI payments authorized for PY X in PY X+1 and PY X+2 Resolutions

	ESPI RESOLUTIONS(2)		FORECAST EE ESPI (1)
Program Year	Part 1	Part 2	
2013	G-3497	G-3510	E-2448
2014	G-3510	E-4807	E-2448
2015	E-4807	E-4897	D.14-10-046
2016	E-4897	NA	No AL Required
2017	NA	NA	E-2951
2018	NA	NA	A.17-01-014

(1) Forecast ESPI claim source is the EE Budget Forecast filing.
(2) Actual ESPI claim source are resolutions.
Note: Program Year 2014 reduced by ($629,150) as reflected in Resolution E- 4897

APPENDIX A – SDG&E 2018 Program Numbers

Program ID	Program Name	Date Added	Date Removed
SDGE3201	SW-CALS-Energy Advisor-HEES, UAT		
SDGE3203	SW-CALS-Plug Load and Appliances-HEER		
SDGE3204	SW-CALS-Plug Load and Appliances-POS Rebates		
SDGE3207	SW-CALS-MFEER		
SDGE3209	SW-CALS-EUC WHRP - Advanced		
SDGE3211	Local-CALS-Middle Income Direct Install (MIDI)		
SDGE3212	SW-CALS-Residential HVAC-QI/QM		
SDGE3213	SW-CALS - CAHP/ESMH-CA Advanced Homes		
SDGE3215	SW-COM-Strategic Energy Management		
SDGE3216	SW-COM-Customer Services-Benchmarking		
SDGE3217	SW-COM-Customer Services- Audits NonRes		
SDGE3220	SW-COM-Calculated Incentives-Calculated		
SDGE3222	SW-COM-Calculated Incentives-Savings by Design		
SDGE3223	SW-COM-Deemed Incentives-Commercial Rebates		
SDGE3224	SW-COM-Deemed Incentives-HVAC Commercial		
SDGE3225	SW-COM-Deemed Incentives-HVAC Core		
SDGE3226	SW-COM Direct Install		
SDGE3227	SW-IND-Strategic Energy Management		
SDGE3228	SW-IND-Customer		

	Services-Benchmarking		
SDGE3229	SW-IND-Customer Services-Audits NonRes		
SDGE3230	SW-IND-Customer Services-Audits CIEEP		Ended June 31, 2018
SDGE3231	SW-IND-Calculated Incentives-Calculated		
SDGE3233	SW-IND-Deemed Incentives		
SDGE3234	SW-AG-Customer Services-Benchmarking		
SDGE3235	SW-AG-Customer Services-Pump Test Services		
SDGE3236	SW-AG-Customer Services-Audits		
SDGE3237	SW-AG-Calculated Incentives-Calculated		
SDGE3239	SW-AG-Deemed Incentives		
SDGE3240	SW-Lighting-Lighting Market Transformation		
SDGE3241	SW-Lighting-Lighting Innovation-ETPC MD		
SDGE3245	SW-Lighting-Primary Lighting		
SDGE3246	SW-ET-Technology Introduction Support		
SDGE3247	SW-ET-Technology Assessment Support		
SDGE3248	SW-ET-Technology Deployment Support		
SDGE3249	SW C&S - Building Codes & Compliance Advocacy		
SDGE3250	SW C&S - Appliance Standards Advocacy		
SDGE3251	SW C&S - Compliance Enhancement		
SDGE3252	SW C&S - Reach Codes		
SDGE3253	SW C&S - Planning Coordination		
SDGE3254	SW-WE&T-Centergies		
SDGE3255	SW-WE&T-Connections		
SDGE3259	SW-ME&O		

SDGE3260	Local-IDSM-ME&O-Local Marketing (EE)		
SDGE3261	Local-IDSM-ME&O-Behavioral Programs (EE)		
SDGE3262	SW-FIN-On-Bill Finance		
SDGE3264	SW-FIN-New Finance Offerings		
SDGE3266	LInstP-CA Department of Corrections Partnership		
SDGE3267	LInstP-California Community College Partnership		
SDGE3268	LInstP-UC/CSU/IOU Partnership		
SDGE3269	LInstP-State of California /IOU		
SDGE3270	LInstP-University of San Diego Partnership		
SDGE3271	LInstP-San Diego County Water Authority Partnership		
SDGE3272	LGP- City of Chula Vista Partnership		
SDGE3273	LGP- City of San Diego Partnership		
SDGE3274	LGP- County of San Diego Partnership		
SDGE3275	LGP- Port of San Diego Partnership		
SDGE3276	LGP- SANDAG Partnership		
SDGE3277	LGP- SEEC Partnership		
SDGE3278	LGP- Emerging Cities Partnership		
SDGE3279	3P-Res-Comprehensive Manufactured-Mobile Home		
SDGE3280	3P-IDEEA		
SDGE3281	EM&V-Evaluation Measurement & Verification		
SDGE3282	SW-IDSM-IDSM		
SDGE3288	CRM		

SDGE3291	SW-Ind-Customer Services-Pump Test Services		
SDGE3292	SW-Com-Customer Services-Pump Test Services		
SDGE3293	SW-CALS - Residential HVAC-HVAC Core		
SDGE3302	SW-CALS - Residential HVAC Upstream		
SDGE3308	SW-ME&O		
SDGE3311	3P - Energy Advantage Program EAP		
SDGE3312	Finance IT OBR		
SDGE3317	HOPPs - Building Retro-Commissioning		
SDGE3318	HOPPs - Multi Family		
SDGE3320	ESPI		
SDGE3321	Labor Loaders		
SDGE3322	3P - Streamlined Ag Efficiency (SAE)		
SDGE3324	Water Energy Nexus (WEN)		
SDGE3325	SW-FIN-Finance Pilots Credit Enhancement	7/31/2018	
SDGE4061	Facility Assessment Services	11/30/2018	

APPENDIX B – Updated December 2018 Monthly Report

The final SDG&E December 2018 monthly report can be found in the Monthly Reports section of the CPUC's CEDARS website.

https://cedars.sound-data.com/

APPENDIX C – 2018 Third Party Programs

Pursuant to Ordering Paragraph 8 of Commission D.18-01-004, SDG&E provides the following preliminary list of its Third Party Programs in place during program year 2018.

APPENDIX C

SDG&E Third Party Programs

The Data provided below is in response to Ordering Paragraph 8 of Commission D.18-01-004, SDG&E provides the list of its Third Party Programs in place during program year 2018.

The "Contract Dollar Value" information is Confidential pursuant to D.19-01-028.

Program ID	Program Name	Primary Sector (Market Segment)	Sector (Sub-segment / Type of Customers)	Delivery Channel	Vendor	Length	Dollar Value
SDGE3211	Local-CALS - Middle Income Direct Install (MIDI) (5660048826)	Residential	Residential	Midstream	Eagle Systems International Inc.	2 Years, 0 Months	
SDGE3212	SW-CALS – Residential HVAC-QI/QM	Residential	Residential	Downstream	DNV GL Energy Services USA Inc	7 Years, 10 Months	
SDGE3224	SW-COM-Deemed Incentives-HVAC	Non-Residential	Commercial	Downstream	CLEAResult	2 Years	
SDGE3302	Res Upstream HVAC Program	Residential	Residential	Updstream	CLEAResult	3 Years, 9 Months	
SDGE3226	SW-COM Direct Install	Non-Residential	Commercial	Direct Install	Matrix Energy Services Inc	2 Years, 2 Months	
	SW-COM Direct Install	Non-Residential	Commercial	Direct Install	Willdan Energy Solutions	2 Years, 2 Months	
	SW-COM Direct Install	Non-Residential	Commercial	Direct Install	Staples & Associates	2 Years, 2 Months	
SDGE3230	SW-IND-Customer Services-Audits CIEEP	Non-Residential	Industrial	Downstream	Onsite Energy Corp	8 Years, 3 Months	
SDGE3235	SW-AG-Customer Services-Pump Test Services	Non-Residential	Agricultural	Downstream	Lincus Inc	5 Years, 0 Months	
SDGE3291	SW-IND-Customer Services-Pump Test Services	Non-Residential	Industrial	Downstream			
SDGE3292	SW-Com-Customer Services-Pump Test Services	Non-Residential	Commercial	Downstream			
SDGE3279	3P-Res-Comprehensive Manufactured-Mobile Home (5660048457)	Residential	Residential	Downstream	Eagle Systems International Inc.	2 Years, 2 Months	
SDGE3311	3P - Energy Advantage Program EAP	Non-Residential	Commercial	Downstream	Aptim Environmental & Infrastructure	4 Years, 0 Months	
SDGE3322	Streamlined AG Efficiency (SAE)	Non-Residential	Agricultural	Downstream	Cascade Energy Inc.		
SDGE3217	SW-COM-Customer Services- Audits	Non-Residential	Commercial	Downstream	kW Engineering	2 Years, 7 Months	
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	Downstream			
SDGE3217	SW-COM-Customer Services- Audits	Non-Residential	Commercial	Downstream	Willdan Energy Solutions	2 Years, 7 Months	
SDGE3236	SW-AG-Customer Services-Audits	Non-Residential	Agricultural	Downstream			
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	Downstream			
SDGE3236	SW-AG-Customer Services-Audits	Non-Residential	Agricultural	Downstream	Base Energy Inc	2 Years, 7 Months	
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	Downstream			
SDGE3236	SW-AG-Customer Services-Audits	Non-Residential	Agricultural	Downstream	Aptim Environmental & Infrastructure	2 Years, 7 Months	
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	Downstream			
SDGE4061	Facility Assessment Services	Non-Residential	Commercial	Downstream	Power TakeOff	8 months	
	Total						**$ 43,453,395.61**

APPENDIX D – Table 3 – Expenditures

Table 3 - 2018 Expenditures, including expenditures on past cycle commitments paid in 2018

IOU	Program ID	Program Name (Add rows to include all programs)	Program Implementer (Use Drop Down Menu)	Primary Sector (Use Drop Down Menu)	ESPI Program Category (Use Drop Down Menu)	Delivery Channel [1] (Use Drop Down Menu)	Authorized/Forecast Budget: 2018 Adopted Budget (EE: Application 17-01-013) (SW ME&O: AL 3125-E/2615-G) ESA:AL 3065-E/2568-G)	Authorized/Forecast Budget: 2018 Administrative Cost (forecast as per budget Advice Letters)	Total 2018 Expenditures (broken out by budget-year funding source): Administrative – Non-IOU Implementer: 2018 Expenditures from pre-2018 budgets (3)	Administrative – Non-IOU Implementer: 2018 Expenditures from 2018 Budget (3)	Administrative – IOU: 2018 Expenditures from pre-2018 budgets (3)	Administrative – IOU: 2018 Expenditures from 2018 Budget (3)	Direct Implementation – Non-Incentive: 2018 Expenditures from pre-2018 budgets (3)	Direct Implementation – Non-Incentive: 2018 Expenditures from 2018 Budget (3)	Direct Implementation – Incentives & Rebates: 2018 Expenditures from pre-2018 budgets (3)	Direct Implementation – Incentives & Rebates: 2018 Expenditures from 2018 Budget (3)	PA Administered ME&O: 2018 Expenditures from pre-2018 budgets (3)	PA Administered ME&O: 2018 Expenditures from 2018 Budget (3)	SW ME&O	EM&V: 2018 Expenditures from pre-2018 budgets (3)	EM&V: 2018 Expenditures from 2018 Budget (3)	On Bill Financing Loan Pool
		IOU/PA Programs					66,894,481	5,330,907	-	168,511	-	4,051,526	286,832	41,224,576	2,793,680	9,735,846	-	1,489,545				
	3201	SW-CALS-Energy Advisor-HEES, UAT	IOU	Residential	Resource		249,538	75,181		-		6,789		66,947				18,240				
	3203	SW-CALS-Plug Load and Appliances-HEER	IOU	Residential	Resource	Downstream	2,373,400	187,303		-		152,566		1,527,239		508,946		269,156				
	3204	SW-CALS-Plug Load and Appliances-POS Rebates	IOU	Residential	Resource	Midstream	1,364,213	91,535		-		102,712		853,172		688,175		47,001				
	3205	SW-CALS-Plug Load and Appliances-RCE	IOU	Residential	Resource		-	-		-		-	-	-	-	-		-				
	3207	SW-CALS-MFEER	IOU	Residential	Resource	Downstream	2,649,835	104,241		98,406		202,425	-	3,156,043	-	-		184,473				
	3208	SW-CALS - EUC WHRP - Basic	IOU	Residential	Resource		-			-		-	-	-	-	-		-				
	3209	SW-CALS - EUC WHRP - Advanced	IOU	Residential	Resource	Downstream	1,998,779	86,617		-		167,393	-	803,555	-	1,326,888		9,456				
	3210	SW-CALS - EUC WHRP - Multifamily	IOU	Residential	Resource		-			-		-	-	-	-	-		-				
	3213	SW-CALS - CAHP/ESMH-CA Advanced Homes	IOU	Residential	Resource	Upstream	1,692,242	94,935		-		66,637	-	246,189	489,181	774,709		5,805				
	3214	SW-CALS - CAHP/ESMH-E Star Manufactured Homes	IOU	Residential	Resource		-	-		-		-	-	-	-	-		-				
	3215	SW-COM-Strategic Energy Management	IOU	Commercial	Resource		272,684	27,354		-		2	-	27	-	-		-				
	3216	SW-COM-Customer Services-Benchmarking	IOU	Commercial	Resource		81,427	9,926		-		5,324	-	41,244	-	-		-				
	3217	SW-COM-Customer Services- Audits NonRes	IOU	Commercial	Resource		1,358,237	123,650		-		33,321	-	388,553	-	-		-				
	3220	SW-COM-Calculated Incentives-Calculated	IOU	Commercial	Resource	Downstream	9,203,078	431,050		-		210,582	-	1,088,159	695,228	1,342,119		5,330				
	3222	SW-COM-Calculated Incentives-Savings by Design	IOU	Commercial	Resource	Upstream	3,714,991	220,737		-		250,767	-	890,208	1,500,893	2,160,339		-				
	3223	SW-COM-Deemed Incentivis-Commercial Rebates	IOU	Commercial	Resource	Downstream	13,317,200	615,412		-		285,643	-	1,463,266	7,605	2,437,226		9,139				
	3225	SW-COM-Deemed Incentives-HVAC Core	IOU	Commercial	Resource		329,802	25,027		-		14,456		151,176		-		-				
	3227	SW-IND-Strategic Energy Management	IOU	Industrial	Resource		1,107,428	27,354		13,287		30,480	-	405,925	-	7,000		9,859				
	3228	SW-IND-Customer Services-Benchmarking	IOU	Industrial	Resource		36,926	3,997		-		2,669		20,838				-				
	3229	SW-IND-Customer Services-Audits NonRes	IOU	Industrial	Resource		461,473	27,166		-		8,417		93,279		-		-				
	3231	SW-IND-Calculated Incentives-Calculated	IOU	Industrial	Resource	Downstream	1,086,995	71,176		-		63,402	-	335,697	100,773	261,802		-				
	3233	SW-IND-Deemed Incentives	IOU	Industrial	Resource	Downstream	824,690	70,927		-		54,740		411,206		124,746		-				
	3234	SW-AG-Customer Services-Benchmarking	IOU	Agricultural	Resource		36,926	3,997		-		2,483		19,415				-				
	3236	SW-AG-Customer Services-Audits	IOU	Agricultural	Resource		103,405	23,097		-		4,886	-	64,344	-	-		-				
	3237	SW-AG-Calculated Incentives-Calculated	IOU	Agricultural	Resource	Downstream	138,066	12,395		-		9,392		72,047				-				
	3239	SW-AG-Deemed Incentives	IOU	Agricultural	Resource	Downstream	398,683	26,033		-		15,408		75,527		104,696		-				
	3240	SW-Lighting-Lighting Market Transformation	IOU	Cross Cutting	Resource		184,613	9,155		-		1,104	-	9,014	-	-		-				
	3241	SW-Lighting-Lighting Innovation-ETPC MD	IOU	Cross Cutting	Resource		93,127	5,483		-		1,077	-	8,533	-	-		-				
	3242	SW-Lighting-Lighting Innovation-ETPC Pilots	IOU	Cross Cutting	Resource		-	-		-		-	-	-	-	-		-				
	3243	SW-Lighting-Lighting Innovation-ETPC Advanced LED	IOU	Cross Cutting	Resource		-	-		-		-	-	-	-	-		-				
	3244	SW-Lighting-Lighting Innovation-ETPC Plug-In Lamp Exc	IOU	Cross Cutting	Non-Resource		-	-		-		-	-	-	-	-		-				
	3245	SW-Lighting-Primary Lighting	IOU	Cross Cutting	Resource	Upstream	8,119,344	289,324		-		1,113,838	178,550	19,351,489	-	-		40,902				
	3246	SW-ET-Technology Introduction Support	IOU	Cross Cutting	Non-Resource		419,495	29,729		-		18,095	-	220,897	-	-		-				
	3247	SW-ET-Technology Assessment Support	IOU	Cross Cutting	Non-Resource		715,663	41,524		-		40,551		555,012		-		-				
	3248	SW-ET-Technology Deployment Support	IOU	Cross Cutting	Non-Resource		191,471	12,836		-		13,498	-	175,586	-	-		-				
	3249	SW C&S - Building Codes & Compliance Advocacy	IOU	Cross Cutting	C&S		287,606	35,376		-		24,557	24,732	344,188	-	-		-				
	3250	SW C&S - Appliance Standards Advocacy	IOU	Cross Cutting	C&S		288,763	32,053		-		12,425		127,708		-		-				
	3251	SW C&S - Compliance Enhancement	IOU	Cross Cutting	C&S		337,965	33,425		-		24,343	-	375,804	-	-		-				
	3252	SW C&S - Reach Codes	IOU	Cross Cutting	C&S		114,314	8,990		-		5,595	-	90,689	-	-		-				
	3253	SW C&S - Planning Coordination	IOU	Cross Cutting	C&S		104,496	10,482		-		4,694		74,011		-		-				
	3254	SW-WE&T-Centergies	IOU	Cross Cutting	Non-Resource		4,022,998	623,412		1,095		636,827	23,318	2,583,168	-	-		272,194				
	3255	SW-WE&T-Connections	IOU	Cross Cutting	Non-Resource		874,000	72,109		46,660		44,064	-	625,166	-	-		11,805				
	3257	SW-WE&T-Strategic Planning	IOU	Cross Cutting	Non-Resource											-						
	3260	Local-IDSM-ME&O-Local Marketing (EE)	IOU	Cross Cutting	Non-Resource		1,215,075	139,651		-		94,758	30,881	414,259	-	-		578,443				
	3261	Local-IDSM-ME&O-Behavioral Programs (EE)	IOU	Residential	Resource	Downstream	4,998,948	368,377		-		199,967	-	3,426,515	-	-		23,630				
	3262	SW-FIN-On-Bill Finance	IOU	Commercial	Resource		383,564	45,890		-		29,607		219,261		-		1,769				
	3282	SW-IDSM-IDSM	IOU	Cross Cutting	Non-Resource		363,151	128,744		-		73,677	29,350	194,810		-		-				
	3288	CRM	IOU	Cross Cutting	Non-Resource		1,049,112	1,049,112		-				-		-		-				
	3293	SW-CALS - Residential HVAC-HVAC Core	IOU	Residential	Resource		163,344	12,455		-		9,599	-	109,422	-	-		-				
	3302	RES Upstream HVAC Incentive Program	IOU	Residential	Resource	Upstream	167,412	23,670		9,063		12,753	-	144,888	-	-		2,344				
	3303	HVAC To Code Compliance Incentive Program	IOU	Residential	Resource											-						
	3313	Locational Energy Efficiency	IOU	Cross Cutting	Non-Resource		-	-		-		-	-	-	-	-		-				
	3315	HOPPs - Tiered Custom	IOU	Cross Cutting	Resource		-	-		-		-	-	-	-	-		-				
	3316	HOPPs - Business Equipment Early Retirement	IOU	Cross Cutting	Resource		-							-		-						
		Local Government Partnership Programs					8,975,572	681,782	-	378,868	-	554,577	1,160,382	6,686,680	-	-	-	211,078				
	3266	LInstP-CA Department of Corrections Partnership	LGP/SIP	Public	Resource		98,013	28,129		22		12,689	-	62,606	-	-		-				
	3267	LInstP-California Community College Partnership	LGP/SIP	Public	Resource		208,814	60,612		62,609		(41,300)		129,158		-		377				
	3268	LInstP-UC/CSU/IOU Partnership	LGP/SIP	Public	Resource		491,505	51,093		19,976		27,241		240,296		-		-				
	3269	LInstP-State of California /IOU	LGP/SIP	Public	Resource		123,570	18,684		127		12,423		74,860		-		-				
	3270	LInstP-University of San Diego Partnership	LGP/SIP	Public	Resource		654,974	42,557		10,932		45,434	104,620	563,831		-		38,916				
	3271	LInstP-San Diego County Water Authority Partnership	LGP/SIP	Public	Resource		418,508	51,386				35,231	74,876	215,404	-	-		-				
	3272	LGP- City of Chula Vista Partnership	LGP/SIP	Public	Resource		1,758,925	85,908		100,408		118,729	185,108	1,442,569	-	-		46,026				
	3273	LGP- City of San Diego Partnership	LGP/SIP	Public	Resource		1,674,341	85,705		113,221		101,611	152,853	1,222,528	-	-		24,008				
	3274	LGP- County of San Diego Partnership	LGP/SIP	Public	Resource		1,128,343	73,752		7,286		77,791	72,029	805,961	-	-		37,738				
	3275	LGP- Port of San Diego Partnership	LGP/SIP	Public	Resource		815,031	53,540		8,513		61,074	69,542	567,523	-	-		24,152				
	3276	LGP- SANDAG Partnership	LGP/SIP	Public	Resource		1,082,530	65,915		30,892		92,248	501,355	1,115,654	-	-		35,396				
	3277	LGP- SEEC Partnership	LGP/SIP	Public	Resource		246,122	30,046		24,882		(4,747)	-	115,864	-	-		1,956				
	3278	LGP- Emerging Cities Partnership	LGP/SIP	Public	Resource		274,896	34,456		-		16,154	-	130,422	-	-		2,509				
		Third Party Program					35,927,947	1,561,769	-	285,780	-	260,911	28,819	15,832,191	-	448,092	-	204,485				
	3206	SW-CALS-Plug Load and Appliances-ARP	Third Party	Residential	Resource																	
	3211	Local-CALS - Middle Income Direct Install (MIDI)	Third Party	Residential	Resource	Midstream	332,160	43,910		6,860		4,333	-	310,323	-	-		13,762				
	3212	SW-CALS - Residential HVAC-QI/QM	Third Party	Residential	Resource	Downstream	535,395	45,138		72,000		7,205	-	450,491	-	144,980		44,000				
	3218	SW-COM-Customer Services-Audits Healthcare Energy Ef	Third Party	Commercial	Resource					-		-	-	-	-	-		-				
	3219	SW-COM-Customer Services-Audits Lodging Energy Effici	Third Party	Commercial	Resource		-	-		-		-	-	-	-	-		-				
	3221	SW-COM-Calculated Incentives-RCx	Third Party	Commercial	Resource																	
	3224	SW-COM-Deemed Incentives-HVAC Commercial	Third Party	Commercial	Resource	Downstream	2,639,307	196,891		123,970		9,667	-	2,921,494	-	-		46,264				
	3226	SW-COM Direct Install	Third Party	Commercial	Resource		11,936,202	24,373		-		23,325	-	7,584,883	-	298,780		4,354				
	3230	SW-IND-Customer Services-Audits CIEEP	Third Party	Industrial	Resource		431,003	23,552		-		-	-	17,068	-	-		-				
	3235	SW-AG-Customer Services-Pump Test Services	Third Party	Agricultural	Resource		140,625	12,118		-		2,696	-	1,121	-	-		-				
	3256	SW-WE&T-Connections K-12	Third Party	Residential	Non-Resource		-	-		-		-	-	-	-	-		-				
	3279	3P-Res-Comprehensive Manufactured-Mobile Home	Third Party	Residential	Resource	Downstream	5,249,440	410,575		40,713		7,091	19,993	1,419,673	-	2,532		72,232				
	3280	3P-IDEEA	Third Party	Cross Cutting	Resource		9,591,102	604,511				12,413		316,155								
	3291	SW-Ind-Customer Services-Pump Test Services	Third Party	Industrial	Resource		222,510	6,832		-		704	-	14,734	-	-		-				
	3292	SW-Com-Customer Services-Pump Test Services	Third Party	Commercial	Resource		222,510	6,832		-		1,899	-	60,812	-	-		-				
	3306	3P-RES-Splash	Third Party	Residential	Resource		-	-		-				-		-		-				
	3307	3P-ZELDA	Third Party	Commercial	Resource	Downstream	-	-		-		-	-	-	-	-		-				
	3309	3P - Sustainable Labs Program	Third Party	Industrial	Resource		-	-		-		-	-	-	-	-		-				
	3310	3P - Multifamily Heat Pump Optimizer	Third Party	Residential	Resource											-						
	3311	3P-Energy Advantage Program (EAP)	Third Party	Commercial	Non-Resource		558,277	55,187		-		33,982	-	334,577	-	-		-				
	3317	HOPPs - Building Retro-Commissioning	Third Party	Commercial	Resource	Downstream	2,315,011	61,761		9,362		66,387	-	985,592	-	-		7,872				
	3318	HOPPs - Multi Family	Third Party	Residential	Resource	Downstream	1,383,853	53,046		27,043		76,755	-	1,281,374	-	-		-				
	3319	HOPPs - RES - To Code LED Fixtures	Third Party	Commercial	Resource											-						
	3322	STREAMLINED AG EFFICIENCY (SAE) PRGM	Third Party	Agricultural	Resource		370,549	17,045		5,833		14,454	8,826	133,896		1,800		16,000				
	3323	MID-MKT DYNAMIC EE PROGRAM	Third Party	Commercial	Resource		-	-		-		-	-	-	-	-		-				
	4061	Facility Assessment Services	Third Party	Commercial	Resource		-	-		-		-	-	-	-	-		-				
		RENs and CCA (Non-IOU Programs)																				
		Subtotal					111,798,000	7,574,458	-	833,160	-	4,867,014	1,476,032	63,743,447	2,793,680	10,183,938	-	1,905,108				
		EM&V - IOU																			527,997	
	3281	EM&V - CPUC Staff					4,658,311	4,658,311												321,872	94,396	
		ORF Loan Pool					26,003,565	-														$ 10,182,904
		Total EE Portfolio Expenditures					**142,459,876**	**12,232,769**	-	**833,160**	-	**4,867,014**	**1,476,032**	**63,743,447**	**2,793,680**	**10,183,938**	-	**1,905,108**	-	**321,872**	**622,394**	
	3259	SW ME&O (Energy Efficiency portion only)					3,291,636	-				75,937						3,647,017				
		Energy Savings Assistance Program (ESA)																				
	3324	Water Energy Nexus [2]					-	-	-	-	-	-	-	121,113	-	-	-	-				-
		Finance Pilots [4]					6,800,749	-	-	-	-	4,490		466,768	664,085	-	-	192,828				

Notes:
[1] Programs without a delivery mechanism are non-resource programs.
[2] Water Energy Nexus are reported but do not count towards EE savings targets/achievements ad does not qualify for ESPI
[3] Committed Funds Expenditures are included in the amount reported in the columns "2018 Expenditures from 2018 Budget".
[4] Financing Pilots Budget- Include $6,300,749 of carry over balance from 2017 and $500,000 of approved budget for 2018 as approved in Advice Letter 3147-E/2625-G. All Financing pilot programs and associated SDG&E IT and admin costs are part of the 2013-2014 program cycle. They do not qualify for ESPI.

APPENDIX E – EE Metrics

The full metrics table is available on the SDG&E website and on EESTATS.

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
GHG	1	SDGE	Metric Ton	NEW: Energy Savings	Metric	Greenhouse gasses (MT CO2eq) Net kWh savings, reported on an annual basis	Portfolio Level (PL)– All Sectors	2018	28,079.13	N/A	N/A	76,996.30
SAVINGS	2	SDGE	First year annual kW gross	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	90,649.05	N/A	N/A	49,464.30
SAVINGS	3	SDGE	First year annual kW net	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	88,214.68	N/A	N/A	43,794.83
SAVINGS	4	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	275,128,837.97	N/A	N/A	229,181,761.52
SAVINGS	5	SDGE	First year annual kWh net	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	251,555,481.41	N/A	N/A	201,672,144.39
SAVINGS	6	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	-227,977.13	N/A	N/A	3,668,761.19
SAVINGS	7	SDGE	First year annual Therm net	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	-535,260.48	N/A	N/A	3,365,102.69
SAVINGS	8	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	479,692.86	N/A	N/A	328,863.73
SAVINGS	9	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	440,753.93	N/A	N/A	238,002.39
SAVINGS	10	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	3,037,546,723.03	N/A	N/A	2,383,262,773.53
SAVINGS	11	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	2,784,677,117.71	N/A	N/A	1,953,734,962.65
SAVINGS	12	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	-20,167,219.40	N/A	N/A	27,876,600.90
SAVINGS	13	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	PL1-S1- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Portfolio Level (PL)– All Sectors	2018	-24,143,713.64	N/A	N/A	21,343,246.46
SAVINGS - DAC	14	SDGE	First year annual kW gross	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	4,655.60	N/A	N/A	744.14
SAVINGS - DAC	15	SDGE	First year annual kW net	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	4,344.56	N/A	N/A	516.87

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				**2018**
SAVINGS - DAC	16	SDGE	First year annual kWh gross	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	30,697,436.50	N/A	N/A	3,659,611.51
SAVINGS - DAC	17	SDGE	First year annual kWh net	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	28,907,099.59	N/A	N/A	2,598,006.38
SAVINGS - DAC	18	SDGE	First year annual Therm gross	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	-326,056.87	N/A	N/A	37,425.98
SAVINGS - DAC	19	SDGE	First year annual Therm net	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	-318,889.49	N/A	N/A	29,650.86
SAVINGS - DAC	20	SDGE	Lifecycle ex-ante kW gross	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	57,204.26	N/A	N/A	8,007.92
SAVINGS - DAC	21	SDGE	Lifecycle ex-ante kW net	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	54,188.85	N/A	N/A	5,507.98
SAVINGS - DAC	22	SDGE	Lifecycle ex-ante kWh gross	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	421,316,669.04	N/A	N/A	40,115,348.35
SAVINGS - DAC	23	SDGE	Lifecycle ex-ante kWh net	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	400,887,693.57	N/A	N/A	28,047,242.43
SAVINGS - DAC	24	SDGE	Lifecycle ex-ante Therm gross	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	-5,059,196.50	N/A	N/A	79,197.59
SAVINGS - DAC	25	SDGE	Lifecycle ex-ante Therm net	S3: DAC Savings	Metric	PL2-S3- First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in disadvantaged communities••	Portfolio Level (PL)– All Sectors	2018	-4,936,595.32	N/A	N/A	31,994.15
SAVINGS-HTR	26	SDGE	First year annual kW gross	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	203.69	N/A	N/A	744.14
SAVINGS-HTR	27	SDGE	First year annual kW net	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	183.32	N/A	N/A	516.87
SAVINGS-HTR	28	SDGE	First year annual kWh gross	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	869,801.07	N/A	N/A	3,659,611.51
SAVINGS-HTR	29	SDGE	First year annual kWh net	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	782,820.99	N/A	N/A	2,598,006.38
SAVINGS-HTR	30	SDGE	First year annual Therm gross	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	-524.44	N/A	N/A	37,425.98

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
SAVINGS-HTR	31	SDGE	First year annual Therm net	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	-472.00	N/A	N/A	29,650.86
SAVINGS-HTR	32	SDGE	Lifecycle ex-ante kW gross	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	1,123.47	N/A	N/A	8,007.92
SAVINGS-HTR	33	SDGE	Lifecycle ex-ante kW net	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	1,011.12	N/A	N/A	5,507.98
SAVINGS-HTR	34	SDGE	Lifecycle ex-ante kWh gross	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	4,982,089.29	N/A	N/A	40,115,348.35
SAVINGS-HTR	35	SDGE	Lifecycle ex-ante kWh net	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	4,483,880.48	N/A	N/A	28,047,242.43
SAVINGS-HTR	36	SDGE	Lifecycle ex-ante Therm gross	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	-13,188.59	N/A	N/A	79,197.59
SAVINGS-HTR	37	SDGE	Lifecycle ex-ante Therm net	S4: Hard to reach markets	Metric	PL3-S4 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in hard-to-reach markets••	Portfolio Level (PL)– All Sectors	2018	-11,869.73	N/A	N/A	31,994.15
COST PER UNIT SAVED	38	SDGE	PAC Levelized Cost ($/kW)	Cost per unit saved	Metric	PL4-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Portfolio Level (PL)– All Sectors	2018	141.65	N/A	N/A	290.54
COST PER UNIT SAVED	39	SDGE	PAC Levelized Cost ($/kWh)	Cost per unit saved	Metric	PL4-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Portfolio Level (PL)– All Sectors	2018	0.02	N/A	N/A	0.06
COST PER UNIT SAVED	40	SDGE	PAC Levelized Cost ($/therm)	Cost per unit saved	Metric	PL4-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Portfolio Level (PL)– All Sectors	2018	0.25	N/A	N/A	0.42
COST PER UNIT SAVED	41	SDGE	TRC Levelized Cost ($/kW)	Cost per unit saved	Metric	PL4-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Portfolio Level (PL)– All Sectors	2018	277.26	N/A	N/A	409.30
COST PER UNIT SAVED	42	SDGE	TRC Levelized Cost ($/kWh)	Cost per unit saved	Metric	PL4-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Portfolio Level (PL)– All Sectors	2018	0.05	N/A	N/A	0.09
COST PER UNIT SAVED	43	SDGE	TRC Levelized Cost ($/therm)	Cost per unit saved	Metric	PL4-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Portfolio Level (PL)– All Sectors	2018	0.48	N/A	N/A	0.59
SAVINGS	44	SDGE	First year annual kW gross	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	63,552.04	N/A	N/A	38,055.98
SAVINGS	45	SDGE	First year annual kW net	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	65,166.66	N/A	N/A	35,093.26
SAVINGS	46	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	170,265,247.66	N/A	N/A	70,479,219.39
SAVINGS	47	SDGE	First year annual kWh net	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	165,493,046.28	N/A	N/A	53,104,884.40

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				**2018**
SAVINGS	48	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	-829,683.25	N/A	N/A	885,322.77
SAVINGS	49	SDGE	First year annual Therm net	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	-840,390.27	N/A	N/A	701,654.88
SAVINGS	50	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	292,861.86	N/A	N/A	141,338.44
SAVINGS	51	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	283,277.55	N/A	N/A	100,926.05
SAVINGS	52	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	2,174,734,737.61	N/A	N/A	669,008,045.26
SAVINGS	53	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	2,077,195,263.00	N/A	N/A	424,986,810.57
SAVINGS	54	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	-29,333,638.01	N/A	N/A	1,784,810.14
SAVINGS	55	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	RSF1-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for Single Family Customers••	Residential (RSF)	2018	-28,959,945.76	N/A	N/A	679,849.34
GHG	56	SDGE	MT CO2eq	GHG	Metric	RSF2-G••Greenhouse gasses (MT CO2eq) Net kWh savings, reported on an annual basis••	Residential (RSF)	2018	19,636.92	N/A	N/A	25,311.15
INTERVENTION - AVG SAVINGS PER PART.	57	SDGE	Lifecycle NET kW	D1: Depth of interventions••Per downstream participant	Metric	RSF3-D1D - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	8.43	312,274	37,048	0.46
INTERVENTION - AVG SAVINGS PER PART.	58	SDGE	Lifecycle NET kWh	D1: Depth of interventions••Per downstream participant	Metric	RSF3-D1D - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	57,754.96	2,139,705,714	37,048	3,288.09
INTERVENTION - AVG SAVINGS PER PART.	59	SDGE	Lifecycle NET Therms	D1: Depth of interventions••Per downstream participant	Metric	RSF3-D1D - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	-748.77	-27,740,523	37,048	-5.46
INTERVENTION - AVG SAVINGS PER PART.	60	SDGE	Lifecycle NET kW	D1: Depth of interventions••Per midstream participant	Metric	RSF3-D1M - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE
INTERVENTION - AVG SAVINGS PER PART.	61	SDGE	Lifecycle NET kWh	D1: Depth of interventions••Per midstream participant	Metric	RSF3-D1M - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE
INTERVENTION - AVG SAVINGS PER PART.	62	SDGE	Lifecycle NET Therms	D1: Depth of interventions••Per midstream participant	Metric	RSF3-D1M - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				**2018**
INTERVENTION - AVG SAVINGS PER PART.	63	SDGE	Lifecycle NET kW	D1: Depth of interventions••Per opt out participant	Metric	RSF3-D1O - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	0.02	11,535	550,000	1.47
INTERVENTION - AVG SAVINGS PER PART.	64	SDGE	Lifecycle NET kWh	D1: Depth of interventions••Per opt out participant	Metric	RSF3-D1O - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	63.67	35,018,092	550,000	70.65
INTERVENTION - AVG SAVINGS PER PART.	65	SDGE	Lifecycle NET Therms	D1: Depth of interventions••Per opt out participant	Metric	RSF3-D1O - Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	1.42	783,069	550,000	2.06
INTERVENTION - AVG SAVINGS PER PART.	66	SDGE	Lifecycle NET kW	D1: Depth of interventions••Per upstream participant	Metric	RSF3-D1U- Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE
INTERVENTION - AVG SAVINGS PER PART.	67	SDGE	Lifecycle NET kWh	D1: Depth of interventions••Per upstream participant	Metric	RSF3-D1U- Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE
INTERVENTION - AVG SAVINGS PER PART.	68	SDGE	Lifecycle NET Therms	D1: Depth of interventions••Per upstream participant	Metric	RSF3-D1U- Average savings per participant in both opt-in and opt-out programs (broken down by downstream, midstream and upstream, as feasible)••	Residential (RSF)	2018	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE	NOT FEASIBLE
PENETRATION	69	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	RSF-P1••Percent of participation relative to eligible population••	Residential (RSF)	2018	0.04	37,048	829,747	0.70
PENETRATION - DAC	70	SDGE	Percent	P3: Penetration of energy efficiency programs in the eligible market - DAC	Metric	RSF-P3 - Percent of participation in disadvantaged communities••	Residential (RSF)	2018	0.05	1,244	23,828	0.01
PENETRATION -HTR	71	SDGE	Percent	P4: Penetration of energy efficiency programs in the HTR market	Metric	RSF-P4 - Percent of participation by customers defined as "hard-to-reach"••	Residential (RSF)	2018	0.05	893	16,596	0.01
COST PER UNIT SAVED	72	SDGE	PAC Levelized Cost ($/kW)	Cost per unit saved	Metric	RSF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential (RSF)	2018	108.66	N/A	N/A	233.49
COST PER UNIT SAVED	73	SDGE	PAC Levelized Cost ($/kWh)	Cost per unit saved	Metric	RSF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential (RSF)	2018	0.02	N/A	N/A	0.05
COST PER UNIT SAVED	74	SDGE	PAC Levelized Cost ($/therm)	Cost per unit saved	Metric	RSF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential (RSF)	2018	0.17	N/A	N/A	0.13
COST PER UNIT SAVED	75	SDGE	TRC Levelized Cost ($/kW)	Cost per unit saved	Metric	RSF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential (RSF)	2018	251.86	N/A	N/A	357.02
COST PER UNIT SAVED	76	SDGE	TRC Levelized Cost ($/kWh)	Cost per unit saved	Metric	RSF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential (RSF)	2018	0.04	N/A	N/A	0.08
COST PER UNIT SAVED	77	SDGE	TRC Levelized Cost ($/therm)	Cost per unit saved	Metric	RSF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential (RSF)	2018	0.38	N/A	N/A	0.20
INTENSITY	78	SDGE	Btu	Energy intensity per SF household	Indicator	RSF-EI1(Indicator) - Average energy use intensity of single family homes (average usage per household – not adjusted)••	Residential (RSF)	2018	18,685,013.84	15,503,834,178,752	829,747	N/A - Indicator
INTENSITY	79	SDGE	Btu	Energy Intensity per MF unit	Indicator	RMF-E12[Indicator] - and Average energy use intensity of multifamily units. including in-unit accounts)	Residential Sector – Multi-family (RMF)	2018	11,338,862.57	5,547,674,578,923	489,262	N/A - Indicator

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								2018				**2018**
INTENSITY	80	SDGE	Btu	Energy Intensity per MF unit square foot	Indicator	RMF-E13[Indicator] Average energy use intensity of multifamily buildings (average usage per square foot – not adjusted ••	Residential Sector – Multi-family (RMF)	2018	13,710.84	5,547,674,578,923	404,619,674	N/A - Indicator
BENCHMARKING	81	SDGE	Percent	B1: MF Benchmarking Penetration	Metric	RMF-B1 - Percent of benchmarked multi-family properties relative to the eligible population••••	Residential Sector – Multi-family (RMF)	2018	0.05	521	10,958	0.01
BENCHMARKING - HTR	82	SDGE	Percent	B6: Benchmarking of HTR Properties	Metric	B6(RMF) - Percent of benchmarking by properties defined as "hard-to-reach"••••	Residential Sector – Multi-family (RMF)	2018	0.01	109	10,958	0.02
PENETRATION	83	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	RMF-P1P ••Percent of participation relative to eligible population (by unit, and property)••	Residential Sector – Multi-family (RMF)	2018	0.00	200	489,262	0.04
PENETRATION	84	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	RMF-P1U ••Percent of participation relative to eligible population (by unit, and property)••	Residential Sector – Multi-family (RMF)	2018	0.02	12,166	489,262	0.04
PENETRATION	85	SDGE	Percent	P2: Penetration of energy efficiency programs in terms of square feet of eligible population	Metric	RMF-P2 - Percent of square feet of eligible population participating (by property)••	Residential Sector – Multi-family (RMF)	2018	0.02	10,061,282	404,619,674	0.04
PENETRATION - DAC	86	SDGE	Percent	P3: Penetration of energy efficiency programs in the eligible market - DAC	Metric	RMF-P3 - Percent of participation in disadvantaged communities••	Residential Sector – Multi-family (RMF)	2018	0.00	9	30,646	0.00
PENETRATION -HTR	87	SDGE	Percent	P4: Penetration of energy efficiency programs in the HTR market	Metric	RMF-P4•• Percent of participation by customers defined as "hard-to-reach"••	Residential Sector – Multi-family (RMF)	2018	0.00	6	55,761	0.00
INTERVENTION - SAV PER PROJECT	88	SDGE	Lifecycle NET kW	D3: Depth of interventions per building	Metric	RMF-D3 - Energy savings (kWh, kw, therms) per project (building)••••	Residential Sector – Multi-family (RMF)	2018	2.98	4,028	1,352	5.92
INTERVENTION - SAV PER PROJECT	89	SDGE	Lifecycle NET kWh	D3: Depth of interventions per building	Metric	RMF-D3 - Energy savings (kWh, kw, therms) per project (building)••••	Residential Sector – Multi-family (RMF)	2018	14,924.40	20,174,469	1,352	22,756.95
INTERVENTION - SAV PER PROJECT	90	SDGE	Lifecycle NET Therms	D3: Depth of interventions per building	Metric	RMF-D3 - Energy savings (kWh, kw, therms) per project (building)••••	Residential Sector – Multi-family (RMF)	2018	1,308.21	1,768,412	1,352	227.58
INTERVENTION - SAV PER PROJECT	91	SDGE	Lifecycle NET kW	D4: Depth of interventions per property	Metric	RMF-D4 - Average savings per participant Savings per project (property)••	Residential Sector – Multi-family (RMF)	2018	11.88	2,376	200	10.79
INTERVENTION - SAV PER PROJECT	92	SDGE	Lifecycle NET kWh	D4: Depth of interventions per property	Metric	RMF-D4 - Average savings per participant Savings per project (property)••	Residential Sector – Multi-family (RMF)	2018	58,995.87	11,799,175	200	41,669.51
INTERVENTION - SAV PER PROJECT	93	SDGE	Lifecycle NET Therms	D4: Depth of interventions per property	Metric	RMF-D4 - Average savings per participant Savings per project (property)••	Residential Sector – Multi-family (RMF)	2018	8,826.60	1,765,319	200	274.12
INTERVENTION SAV PER SQR FOOT	94	SDGE	Lifecycle NET kW	D5: Depth of interventions••Per square foot	Metric	RMF-D5•• Energy savings (kWh, kw, therms) per square foot••	Residential Sector – Multi-family (RMF)	2018	0.00	2,376	10,061,282	0.00

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								2018				**2018**
INTERVENTION SAV PER SQR FOOT	95	SDGE	Lifecycle NET kWh	D5: Depth of interventions••Per square foot	Metric	RMF-D5•• Energy savings (kWh, kw, therms) per square foot••	Residential Sector – Multi-family (RMF)	2018	1.17	11,799,175	10,061,282	2.69
INTERVENTION SAV PER SQR FOOT	96	SDGE	Lifecycle NET Therms	D5: Depth of interventions••Per square foot	Metric	RMF-D5•• Energy savings (kWh, kw, therms) per square foot••	Residential Sector – Multi-family (RMF)	2018	0.18	1,765,319	10,061,282	0.02
SAVINGS	97	SDGE	First year annual kW gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	3,650.24	N/A	N/A	2,045.61
SAVINGS	98	SDGE	First year annual kW net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	3,457.56	N/A	N/A	1,879.22
SAVINGS	99	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	4,894,583.73	N/A	N/A	4,163,975.67
SAVINGS	100	SDGE	First year annual kWh net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	3,981,975.83	N/A	N/A	3,152,613.07
SAVINGS	101	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	225,492.03	N/A	N/A	50,326.73
SAVINGS	102	SDGE	First year annual Therm net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	158,189.52	N/A	N/A	39,616.65
SAVINGS	103	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	9,267.67	N/A	N/A	7,306.41
SAVINGS	104	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	7,319.06	N/A	N/A	5,396.14
SAVINGS	105	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	26,000,410.22	N/A	N/A	34,835,587.67
SAVINGS	106	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	17,497,989.68	N/A	N/A	21,815,455.06

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								2018				**2018**
SAVINGS	107	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	2,530,847.92	N/A	N/A	195,129.60
SAVINGS	108	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	1,548,350.59	N/A	N/A	120,004.51
SAVINGS	109	SDGE	First year annual kW gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	290.60	N/A	N/A	174.53
SAVINGS	110	SDGE	First year annual kW net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	275.26	N/A	N/A	160.34
SAVINGS	111	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	389,668.28	N/A	N/A	355,277.38
SAVINGS	112	SDGE	First year annual kWh net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	317,013.61	N/A	N/A	268,986.23
SAVINGS	113	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	17,951.90	N/A	N/A	4,293.96
SAVINGS	114	SDGE	First year annual Therm net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	12,593.81	N/A	N/A	3,380.16
GHG	115	SDGE	MT CO2eq	GHG	Metric	RMF-G•• Greenhouse gasses (MT CO2eq) Net kWh savings, reported on an annual basis••	Residential Sector – Multi-family (RMF)	2018	243.84	N/A	N/A	1,756.67
SAVINGS	116	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	737.82	N/A	N/A	623.39
SAVINGS	117	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	582.69	N/A	N/A	460.41
SAVINGS	118	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	2,069,948.28	N/A	N/A	2,972,230.68

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								2018				**2018**
SAVINGS	119	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	1,393,052.39	N/A	N/A	1,861,331.16
SAVINGS	120	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	201,486.22	N/A	N/A	16,648.78
SAVINGS	121	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	123,267.50	N/A	N/A	10,238.99
SAVINGS	122	SDGE	First year annual kW gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	3,940.85	N/A	N/A	2,220
SAVINGS	123	SDGE	First year annual kW net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	3,732.82	N/A	N/A	2,040
SAVINGS	124	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	5,284,252.01	N/A	N/A	4,519,253
SAVINGS	125	SDGE	First year annual kWh net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	4,298,989.45	N/A	N/A	3,421,599
SAVINGS	126	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	243,443.93	N/A	N/A	54,620.69
SAVINGS	127	SDGE	First year annual Therm net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	170,783.33	N/A	N/A	42,996.81
SAVINGS	128	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	10,005.49	N/A	N/A	7,929.80
SAVINGS	129	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	7,901.75	N/A	N/A	5,856.55

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								2018				**2018**
SAVINGS	130	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	28,070,358.50	N/A	N/A	3,419,490.31
SAVINGS	131	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	18,891,042.07	N/A	N/A	23,676,786.22
COST PER UNIT SAVED	132	SDGE	PAC Levelized Cost ($/kW)	Cost per unit saved	Metric	RMF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential Sector – Multi-family (RMF)	2018	1,065.21	N/A	N/A	587.09
COST PER UNIT SAVED	133	SDGE	PAC Levelized Cost ($/kWh)	Cost per unit saved	Metric	RMF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential Sector – Multi-family (RMF)	2018	0.21	N/A	N/A	0.15
COST PER UNIT SAVED	134	SDGE	PAC Levelized Cost ($/therm)	Cost per unit saved	Metric	RMF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential Sector – Multi-family (RMF)	2018	1.42	N/A	N/A	0.98
COST PER UNIT SAVED	135	SDGE	TRC Levelized Cost ($/kW)	Cost per unit saved	Metric	RMF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential Sector – Multi-family (RMF)	2018	1,217.96	N/A	N/A	716.45
COST PER UNIT SAVED	136	SDGE	TRC Levelized Cost ($/kWh)	Cost per unit saved	Metric	RMF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential Sector – Multi-family (RMF)	2018	0.24	N/A	N/A	0.19
COST PER UNIT SAVED	137	SDGE	TRC Levelized Cost ($/therm)	Cost per unit saved	Metric	RMF-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Residential Sector – Multi-family (RMF)	2018	1.63	N/A	N/A	1.20
SAVINGS	138	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	2,732,334.14	N/A	N/A	211,778.38
SAVINGS	139	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	RMF-S1-First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) for multifamily customers (in-unit, common area, and master metered accounts)••	Residential Sector – Multi-family (RMF)	2018	1,671,618.09	N/A	N/A	130,243.50
SAVINGS	140	SDGE	First year annual kW gross	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	17,977.16	N/A	N/A	20,052.90
SAVINGS	141	SDGE	First year annual kW net	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	15,325.23	N/A	N/A	12,754.84
SAVINGS	142	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	71,809,803.55	N/A	N/A	94,291,378.79
SAVINGS	143	SDGE	First year annual kWh net	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	60,445,200.34	N/A	N/A	58,318,476.79
SAVINGS	144	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	197,407.13	N/A	N/A	1,067,270.53
SAVINGS	145	SDGE	First year annual Therm net	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	38,041.34	N/A	N/A	582,666.70

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
SAVINGS	146	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	130,331.79	N/A	N/A	219,568.99
SAVINGS	147	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	113,966.17	N/A	N/A	138,643.06
SAVINGS	148	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	550,622,819.52	N/A	N/A	1,031,060,456.31
SAVINGS	149	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	471,792,053.98	N/A	N/A	635,527,368.03
SAVINGS	150	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	4,996,277.71	N/A	N/A	12,146,941.39
SAVINGS	151	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	C-S1•• - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net)••	Commercial Sector (C)	2018	2,254,121.26	N/A	N/A	6,637,439.16
SAVINGS - PERCENT	152	SDGE	Percent first year annual kW gross	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.01	17,977	1,372,769	0.01
SAVINGS - PERCENT	153	SDGE	Percent first year annual kW net	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.01	15,325	1,372,769	0.01
SAVINGS - PERCENT	154	SDGE	Percent first year annual kWh gross	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.01	71,809,804	6,657,664,179	0.01
SAVINGS - PERCENT	155	SDGE	Percent first year annual kWh net	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.01	60,445,200	6,657,664,179	0.01
SAVINGS - PERCENT	156	SDGE	Percent first year annual Therm gross	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.00	197,407	204,979,072	0.01
SAVINGS - PERCENT	157	SDGE	Percent first year annual Therm net	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.00	38,041	204,979,072	0.00
SAVINGS - PERCENT	158	SDGE	Percent lifecycle ex-ante kW gross	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.09	130,332	1,372,769	0.16

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								2018				2018
SAVINGS - PERCENT	159	SDGE	Percent lifecycle ex-ante kW net	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.08	113,966	1,372,769	0.10
SAVINGS - PERCENT	160	SDGE	Percent lifecycle ex-ante kWh gross	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.08	550,622,820	6,657,664,179	0.14
SAVINGS - PERCENT	161	SDGE	Percent lifecycle ex-ante kWh net	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.07	471,792,054	6,657,664,179	0.09
SAVINGS - PERCENT	162	SDGE	Percent lifecycle ex-ante Therm gross	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.02	4,996,278	204,979,072	0.06
SAVINGS - PERCENT	163	SDGE	Percent lifecycle ex-ante Therm net	S2: Percent Overall Sectoral Savings	Metric	C-S2 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) as a percentage of overall sectoral usage••	Commercial Sector (C)	2018	0.01	2,254,121	204,979,072	0.03
GHG	164	SDGE	metric ton	GHG	Metric	C-G••Greenhouse gasses (MT CO2eq) Net kWh savings, reported on an annual basis	Commercial Sector (C)	2018	6,063.95	N/A	N/A	38,121.46
INTERVENTION - SAV PERCENT CONSUMP	165	SDGE	Percent	D2: Depth of interventions by project	Metric	Energy savings (gross kWh, therms) as a fraction of total project consumption.	Commercial Sector (C)	2018	0.04	71,809,804	1,818,256,579	0.02
INTERVENTION - SAV PERCENT CONSUMP	166	SDGE	Percent	D2: Depth of interventions by project	Metric	Energy savings (gross kWh, therms) as a fraction of total project consumption.	Commercial Sector (C)	2018	0.02	197,407	8,187,560	0.08
PENETRATION - SML	167	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	•••C-P1M•••Percent of participation relative to eligible population for small, medium, and large customers••	Commercial Sector (C)	2018	0.02	2,461	112,315	0.09
PENETRATION - SML	168	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	•••C-P1M•••Percent of participation relative to eligible population for small, medium, and large customers••	Commercial Sector (C)	2018	0.06	1,363	23,342	0.09
PENETRATION - SML	169	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	•C-P1L••Percent of participation relative to eligible population for small, medium, and large customers••	Commercial Sector (C)	2018	0.18	258	1,405	0.09
PENETRATION	170	SDGE	Percent	P2: Penetration of energy efficiency programs in terms of square feet of eligible population	Metric	C-P2 - Percent of square feet of eligible population••	Commercial Sector (C)	2018	0.04	102,210,976	2,784,277,468	0.36

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				**2018**
PENETRATION -HTR	171	SDGE	Percent	P4: Penetration of energy efficiency programs in the HTR market	Metric	C-P4- Percent of participation by customers defined as "hard-to-reach"••	Commercial Sector (C)	2018	0.05	385	8,250	0.04
BENCHMARKING	172	SDGE	Percent	Square Footage of Commercial Benchmarking Penetration	Metric	C-B2 - Percent of benchmarked square feet of eligible population••	Commercial Sector (C)	2018	0.05	141,723,674	2,784,277,468	0.20
BENCHMARKING	173	SDGE	Percent	Benchmarking Penetration for Commercial Sector	Metric	B5(C)L Percent of benchmarked customers relative to eligible population for large customers	Commercial Sector (C)	2018	0.06	84	1,405	0.01
BENCHMARKING	174	SDGE	Percent	Benchmarking Penetration for Commercial Sector	Metric	B5(C)M Percent of benchmarked customers relative to eligible population for medium customers	Commercial Sector (C)	2018	0.04	857	23,342	0.01
BENCHMARKING - SML	175	SDGE	Percent	Benchmarking Penetration for Commercial Sector	Metric	B5(C)S••Percent of benchmarked customers relative to eligible population for small customers	Commercial Sector (C)	2018	0.02	2,497	112,315	0.01
BENCHMARKING - HTR	176	SDGE	Percent	B6: Benchmarking of HTR Properties	Metric	B6(C) - Percent of benchmarking by customers defined as "hard-to-reach"••	Commercial Sector (C)	2018	0.02	136	8,250	0.01
COST PER UNIT SAVED	177	SDGE	PAC Levelized Cost ($/kW)	Cost per unit saved	Metric	C-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Commercial Sector (C)	2018	126.73	N/A	N/A	292.93
COST PER UNIT SAVED	178	SDGE	PAC Levelized Cost ($/kWh)	Cost per unit saved	Metric	C-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Commercial Sector (C)	2018	0.03	N/A	N/A	0.06
COST PER UNIT SAVED	179	SDGE	PAC Levelized Cost ($/therm)	Cost per unit saved	Metric	C-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Commercial Sector (C)	2018	0.30	N/A	N/A	0.47
COST PER UNIT SAVED	180	SDGE	TRC Levelized Cost ($/kW)	Cost per unit saved	Metric	C-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Commercial Sector (C)	2018	176.22	N/A	N/A	409.88
COST PER UNIT SAVED	181	SDGE	TRC Levelized Cost ($/kWh)	Cost per unit saved	Metric	C-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Commercial Sector (C)	2018	0.04	N/A	N/A	0.09
COST PER UNIT SAVED	182	SDGE	TRC Levelized Cost ($/therm)	Cost per unit saved	Metric	C-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Commercial Sector (C)	2018	0.41	N/A	N/A	0.65
NMEC	183	SDGE	Percent	NMEC	Indicator	C-N1[Indicator] Fraction of total projects utilizing Normalized Metered Energy Consumption (NMEC) to estimate savings••	Commercial Sector (C)	2018	0.10	11	110	N/A - Indicator
NMEC	184	SDGE	Percent	NMEC	Indicator	C-N2[Indicator] Fraction of total savings (gross kWh and therm) derived from NMEC analysis••	Commercial Sector (C)	2018	0.05	164,293	2,988,779	N/A - Indicator
SATISFACTION	185	SDGE	Percent	Satisfaction	Indicator	C-CS[Indicator] Improvement in customer satisfaction••	Commercial Sector (C)	2018	No information is available for 2018. SDG&E will implement customer satisfaction surveys in 2019	No information is available for 2018. SDG&E will implement customer satisfaction surveys in 2019	No information is available for 2018. SDG&E will implement customer satisfaction surveys in 2019	N/A - Indicator
SATISFACTION	186	SDGE	Percent	Satisfaction	Indicator	C-TS[Indicator] Improvement in trade ally satisfaction••	Commercial Sector (C)	2018	No information is available for 2018. SDG&E will implement customer satisfaction surveys in 2019	No information is available for 2018. SDG&E will implement customer satisfaction surveys in 2019	No information is available for 2018. SDG&E will implement customer satisfaction surveys in 2019	N/A - Indicator
INVESTMENT IN EE	187	SDGE	Percent	Investment in energy efficiency	Indicator	C-F - [Indicator] Fraction of total investments made by ratepayers and private capital••	Commercial Sector (C)	2018	0.59	10,164,279	17,170,838	N/A - Indicator

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
SAVINGS	188	SDGE	First year annual kW gross	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	4,869.38	N/A	N/A	6,596.81
SAVINGS	189	SDGE	First year annual kW net	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	3,771.83	N/A	N/A	4,195.97
SAVINGS	190	SDGE	First year annual kWh gross	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	25,281,292.09	N/A	N/A	31,019,093.23
SAVINGS	191	SDGE	First year annual kWh net	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	19,629,014.22	N/A	N/A	19,185,065.40
SAVINGS	192	SDGE	First year annual Therm gross	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	165,007.98	N/A	N/A	351,100.65
SAVINGS	193	SDGE	First year annual Therm net	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	99,632.88	N/A	N/A	191,680.22
SAVINGS	194	SDGE	Lifecycle ex-ante kW gross	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	44,541.97	N/A	N/A	72,231.75
SAVINGS	195	SDGE	Lifecycle ex-ante kW net	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	34,212.00	N/A	N/A	45,609.49
SAVINGS	196	SDGE	Lifecycle ex-ante kWh gross	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	264,032,344.81	N/A	N/A	339,188,596.30
SAVINGS	197	SDGE	Lifecycle ex-ante kWh net	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	203,184,949.42	N/A	N/A	209,069,831.50
SAVINGS	198	SDGE	Lifecycle ex-ante Therm gross	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	1,457,968.96	N/A	N/A	3,995,986.83
SAVINGS	199	SDGE	Lifecycle ex-ante Therm net	S1: Energy Savings	Metric	P-S1 - First year annual and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) across Public Sector programs••	Public Sector (P)	2018	908,171.25	N/A	N/A	2,183,522.47
GHG	200	SDGE	MT CO2eq	GHG	Metric	P-G••Greenhouse gasses (MT CO2eq) based on net lifecycle kWh and Therms savings, reported on an annual basis, incorporating average fuel/technology mix••	Public Sector (P)	2018	2,002.21	N/A	N/A	9,436.51
INTERVENTION - SAV PER PROJECT	201	SDGE	Percent annual NET kW	D3: Depth of interventions per building	Indicator	P-D3[Indicator] Average percent energy savings (kWh, kw, therms) per project building or facility••	Public Sector (P)	2018	9.82	3,772	384	
INTERVENTION - SAV PER PROJECT	202	SDGE	Percent annual NET kWh	D3: Depth of interventions per building	Indicator	P-D3[Indicator] Average percent energy savings (kWh, kw, therms) per project building or facility••	Public Sector (P)	2018	51,117.22	19,629,014	384	

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								2018				2018
INTERVENTION - SAV PER PROJECT	203	SDGE	Percent annual NET Therms	D3: Depth of interventions per building	Indicator	P-D3[Indicator] Average percent energy savings (kWh, kw, therms) per project building or facility••	Public Sector (P)	2018	259.46	99,633	384	
INTERVENTION - SAV PER PROJECT	204	SDGE	Annual NET kW	D5: Depth of interventions••Per square foot	Indicator	P-D5[Indicator] Average annual energy savings (kWh, kw, therms) per project building floor plan area••	Public Sector (P)	2018	0.00	3,772	60,787,584	
INTERVENTION - SAV PER PROJECT	205	SDGE	Annual NET kWh	D5: Depth of interventions••Per square foot	Indicator	P-D5[Indicator] Average annual energy savings (kWh, kw, therms) per project building floor plan area••	Public Sector (P)	2018	0.32	19,629,014	60,787,584	
INTERVENTION - SAV PER PROJECT	206	SDGE	Annual NET Therms	D5: Depth of interventions••Per square foot	Indicator	P-D5[Indicator] Average annual energy savings (kWh, kw, therms) per project building floor plan area••	Public Sector (P)	2018	0.00	99,633	60,787,584	
WATER	207	SDGE	Annual NET kW	Water	Indicator	P-W1[Indicator] Average annual energy savings (kWh, kW therms) per annual flow through project water/wastewater facilities••	Public Sector (P)	2018	0.00	8	8,892,042	N/A - Indicator
WATER	208	SDGE	Annual NET kWh	Water	Indicator	P-W1[Indicator] Average annual energy savings (kWh, kW therms) per annual flow through project water/wastewater facilities••	Public Sector (P)	2018	0.01	75,004	8,892,042	N/A - Indicator
WATER	209	SDGE	Annual NET Therms	Water	Indicator	P-W1[Indicator] Average annual energy savings (kWh, kW therms) per annual flow through project water/wastewater facilities••	Public Sector (P)	2018	0.00	0	0	N/A - Indicator
PENETRATION	210	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	P-P1 - Percent of Public Sector accounts participating in programs••	Public Sector (P)	2018	0.02	322	14,515	0.09
PENETRATION	211	SDGE	Percent	P2: Penetration of energy efficiency programs in terms of square feet of eligible population	Indicator	P-P2[Indicator] Percent of estimated floorplan area (i.e., ft2) of all Public Sector buildings participating in building projects—estimate within +/-15% of sector-wide building area, +/-5% of project building area••	Public Sector (P)	2018	0.00	0	14,515	N/A - Indicator
WATER	212	SDGE	Percent	Water	Indicator	P-W2[Indicator] Percent of Public Sector water/wastewater flow (i.e., annual average Million Gallons per Day) enrolled in non-building water/wastewater programs— estimate within +/-20% of flow through eligible facilities (treatment facilities pumping stations), +/-10% of flow through project facilities	Public Sector (P)	2018	No information is available for 2018. SDG&E will implement surveys in 2019	N/A	N/A	N/A - Indicator
COST PER UNIT SAVED	213	SDGE	PAC Levelized Cost ($/kW)	Cost per unit saved	Metric	P-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Public Sector (P)	2018	219.63	N/A	N/A	292.93
COST PER UNIT SAVED	214	SDGE	PAC Levelized Cost ($/kWh)	Cost per unit saved	Metric	P-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Public Sector (P)	2018	0.04	N/A	N/A	0.06
COST PER UNIT SAVED	215	SDGE	PAC Levelized Cost ($/therm)	Cost per unit saved	Metric	P-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Public Sector (P)	2018	0.42	N/A	N/A	0.47
COST PER UNIT SAVED	216	SDGE	TRC Levelized Cost ($/kW)	Cost per unit saved	Metric	P-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Public Sector (P)	2018	551.83	N/A	N/A	409.88

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								2018				**2018**
COST PER UNIT SAVED	217	SDGE	TRC Levelized Cost ($/kWh)	Cost per unit saved	Metric	P-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Public Sector (P)	2018	0.09	N/A	N/A	0.09
COST PER UNIT SAVED	218	SDGE	TRC Levelized Cost ($/therm)	Cost per unit saved	Metric	P-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Public Sector (P)	2018	1.05	N/A	N/A	0.65
	219	SDGE	$	Investment in EE	Indicator	P-F2 - [Indicator] Total program-backed financing distributed to Public Sector customers requiring repayment (i.e., loans, OBF)••	Public Sector (P)	2018	7,613,134.06	N/A	N/A	N/A - Indicator
BENCHMARKING	220	SDGE	Percent	Public Sector Benchmarking Penetration Calendar Year	Metric	P-B3 - Percent of Public Sector buildings with current benchmark••••	Public Sector (P)	2018	0.01	211	14,515	0.01
INTENSITY	221	SDGE	Btu	Energy Intensity per public sector building	Metric	P-E14 Average energy use intensity of all Public Sector buildings••	Public Sector (P)	2018	621,951,057.10	9,027,619,593,819	14,515	51,924.09
BENCHMARKING	222	SDGE	Percent	Public Sector Square Foot Benchmarking Penetration in Calendar Year	Indicator	B4-P[Indicator] Percent of floorplan area of all Public Sector buildings with current benchmark	Public Sector (P)	2018	0.06	20,150,927	333,351,490	N/A - Indicator
SAVINGS	223	SDGE	kW	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	302.29	N/A	N/A	676.02
SAVINGS	224	SDGE	kW	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	212.64	N/A	N/A	406.57
SAVINGS	225	SDGE	kWh	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	2,474,643.66	N/A	N/A	3,443,987.42
SAVINGS	226	SDGE	kWh	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	1,679,031.87	N/A	N/A	2,067,666.99
SAVINGS	227	SDGE	Therm	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	-4,152.91	N/A	N/A	52,361.37
SAVINGS	228	SDGE	Therm	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	-3,327.76	N/A	N/A	30,819.67
SAVINGS	229	SDGE	kW	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	1,878.56	N/A	N/A	8,081.53
SAVINGS	230	SDGE	kW	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	1,341.57	N/A	N/A	4,860.39
SAVINGS	231	SDGE	kWh	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	19,950,472.59	N/A	N/A	41,799,714.52
SAVINGS	232	SDGE	kWh	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	13,511,816.75	N/A	N/A	25,095,297.79

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				**2018**
SAVINGS	233	SDGE	Therm	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	-20,162.20	N/A	N/A	518,483.78
SAVINGS	234	SDGE	Therm	S1: Energy Savings	Metric	In-S1••- First year annualized and lifecycle ex-ante (pre-evaluation) gas, electric, and demand savings (gross and net) in industrial sector••	Industrial (I)	2018	-17,678.49	N/A	N/A	305,177.28
GHG	235	SDGE	metric ton	GHG	Metric	I-G- Greenhouse gasses (MT CO2eq) Net kWh savings, reported on an annual basis••	Industrial (I)	2018	131.45	N/A	N/A	1,046.24
PENETRATION - SML	236	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	•In-P1L••Percent of participation relative to eligible population for small, medium and large customers••	Industrial (I)	2018	0.00	0	0	NA
PENETRATION - SML	237	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	••In-P1M••Percent of participation relative to eligible population for small, medium and large customers••	Industrial (I)	2018	0.00	0	0	0.00
PENETRATION - SML	238	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	In-P1S••In-P1M••In-P1L••Percent of participation relative to eligible population for small, medium and large customers••	Industrial (I)	2018	0.07	38	515	0.49
PENETRATION - SML	239	SDGE	Percent	New participation	Indicator	I-P5[Indicator] Percent of customers participating that have not received an incentive for the past three years, annually, by small, medium and large customer categories••	Industrial (I)	2018	0.06	29	515	N/A - Indicator
PENETRATION - SML	240	SDGE	Percent	New participation	Indicator	I-P5[Indicator] Percent of customers participating that have not received an incentive for the past three years, annually, by small, medium and large customer categories••	Industrial (I)	2018	0.00	0	0	N/A - Indicator
PENETRATION - SML	241	SDGE	Percent	New participation	Indicator	I-P5[Indicator] Percent of customers participating that have not received an incentive for the past three years, annually, by small, medium and large customer categories••	Industrial (I)	2018	0.00	0	0	N/A - Indicator
COST PER UNIT SAVED	242	SDGE	$/kW	Cost per unit saved	Metric	I-LC - Levelized cost of energy efficiency per kWh, therm and KW (use both TRC and PAC)••	Industrial (I)	2018	879.62	N/A	N/A	645.85
COST PER UNIT SAVED	243	SDGE	$/kWh	Cost per unit saved	Metric	I-LC - Levelized cost of energy efficiency per kWh, therm and KW (use both TRC and PAC)••	Industrial (I)	2018	0.09	N/A	N/A	0.12
COST PER UNIT SAVED	244	SDGE	$/therm	Cost per unit saved	Metric	I-LC - Levelized cost of energy efficiency per kWh, therm and KW (use both TRC and PAC)••	Industrial (I)	2018	0.91	N/A	N/A	0.92
COST PER UNIT SAVED	245	SDGE	$/kW	Cost per unit saved	Metric	I-LC - Levelized cost of energy efficiency per kWh, therm and KW (use both TRC and PAC)••	Industrial (I)	2018	1,078.22	N/A	N/A	787.62
COST PER UNIT SAVED	246	SDGE	$/kWh	Cost per unit saved	Metric	I-LC - Levelized cost of energy efficiency per kWh, therm and KW (use both TRC and PAC)••	Industrial (I)	2018	0.12	N/A	N/A	0.15
COST PER UNIT SAVED	247	SDGE	$/therm	Cost per unit saved	Metric	I-LC - Levelized cost of energy efficiency per kWh, therm and KW (use both TRC and PAC)••	Industrial (I)	2018	1.12	N/A	N/A	1.13
SAVINGS - PERCENT	248	SDGE	Percent first year annual kW gross	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	302	592,800	0.10%

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								2018				**2018**
SAVINGS - PERCENT	249	SDGE	Percent first year annual kW net	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	213	592,800	0.06%
SAVINGS - PERCENT	250	SDGE	Percent first year annual kWh gross	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	2,474,644	2,869,338,871	0.08%
SAVINGS - PERCENT	251	SDGE	Percent first year annual kWh net	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	1,679,032	2,869,338,871	0.05%
SAVINGS - PERCENT	252	SDGE	Percent first year annual Therm gross	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	-4,153	237,104,720	0.02%
SAVINGS - PERCENT	253	SDGE	Percent first year annual Therm net	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	-3,328	237,104,720	0.01%
SAVINGS - PERCENT	254	SDGE	Percent lifecycle ex-ante kW gross	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	1,879	592,800	1.19%
SAVINGS - PERCENT	255	SDGE	Percent lifecycle ex-ante kW net	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	1,342	592,800	0.72%
SAVINGS - PERCENT	256	SDGE	Percent lifecycle ex-ante kWh gross	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.01	19,950,473	2,869,338,871	0.94%
SAVINGS - PERCENT	257	SDGE	Percent lifecycle ex-ante kWh net	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	13,511,817	2,869,338,871	0.57%
SAVINGS - PERCENT	258	SDGE	Percent lifecycle ex-ante Therm gross	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	-20,162	237,104,720	0.18%
SAVINGS - PERCENT	259	SDGE	Percent lifecycle ex-ante Therm net	S2: Percent Overall Sectoral Savings	Metric	I-RC - Reduction in consumption (proposed by SCE and SDG&E)••	Industrial (I)	2018	0.00	-17,678	237,104,720	0.11%
SAVINGS	260	SDGE	kW	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	7.32	N/A	N/A	68.08
SAVINGS	261	SDGE	kW	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	5.49	N/A	N/A	40.94
SAVINGS	262	SDGE	kWh	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	13,599.00	N/A	N/A	332,009.17
SAVINGS	263	SDGE	kWh	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	10,199.25	N/A	N/A	200,452.25
SAVINGS	264	SDGE	Therm	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	0.00	N/A	N/A	128,951.33
SAVINGS	265	SDGE	Therm	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	0.00	N/A	N/A	76,793.76
SAVINGS	266	SDGE	kW	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	73.20	N/A	N/A	753.57

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								2018				2018
SAVINGS	267	SDGE	kW	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	54.90	N/A	N/A	453.21
SAVINGS	268	SDGE	kWh	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	135,990.00	N/A	N/A	3,416,127.57
SAVINGS	269	SDGE	kWh	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	101,992.50	N/A	N/A	2,056,560.16
SAVINGS	270	SDGE	Therm	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	0.00	N/A	N/A	639,024.86
SAVINGS	271	SDGE	Therm	S1: Energy Savings	Metric	Ag-S1 - First year and lifecycle ex ante (pre-evaluation) annualized gas, electric, and demand savings in agriculture sector, gross and net••	Agricultural (A)	2018	0.00	N/A	N/A	380,595.11
GHG	272	SDGE	metric ton	GHG	Metric	A-G - Greenhouse gasses (MT CO2eq) Net kWh savings, reported on an annual basis••	Agricultural (A)	2018	0.77	N/A	N/A	101.67
PENETRATION - SML	273	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	Ag-P1S••Percent of participation relative to eligible population for small, medium and large customers••	Agricultural (A)	2018	0.01	1	127	0.01
PENETRATION - SML	274	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	Ag-P1M•Percent of participation relative to eligible population for small, medium and large customers••	Agricultural (A)	2018	0.00	4	807	0.01
PENETRATION - SML	275	SDGE	Percent	P1: Penetration of energy efficiency programs in the eligible market ••Percent of Participation	Metric	Ag-P1L••Percent of participation relative to eligible population for small, medium and large customers••	Agricultural (A)	2018	0.00	0	2,381	0.01
COST PER UNIT SAVED	276	SDGE	$/kW	Cost per unit saved	Metric	A-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Agricultural (A)	2018	3,080.10	N/A	N/A	560.77
COST PER UNIT SAVED	277	SDGE	$/kWh	Cost per unit saved	Metric	A-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Agricultural (A)	2018	1.66	N/A	N/A	0.12
COST PER UNIT SAVED	278	SDGE	$/therm	Cost per unit saved	Metric	A-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Agricultural (A)	2018	N/A	N/A	N/A	0.95
COST PER UNIT SAVED	279	SDGE	$/kW	Cost per unit saved	Metric	A-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Agricultural (A)	2018	3,245.14	N/A	N/A	455.63
COST PER UNIT SAVED	280	SDGE	$/kWh	Cost per unit saved	Metric	A-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Agricultural (A)	2018	1.75	N/A	N/A	0.10
COST PER UNIT SAVED	281	SDGE	$/therm	Cost per unit saved	Metric	A-LC - Levelized cost of energy efficiency per kWh, therm and kW (use both TRC and PAC)••	Agricultural (A)	2018	N/A	N/A	N/A	0.77
SAVINGS	282	SW	Net GWh	S1: Energy Savings	Metric	Net Energy Savings: GWH, M Therms and MW (demand)	Codes & Standards (CS)	2018	1,450.00	N/A	N/A	1,212.00
SAVINGS	283	SW	Net MMTherms	S1: Energy Savings	Metric	Net Energy Savings: GWH, M Therms and MW (demand)	Codes & Standards (CS)	2018	45.30	N/A	N/A	42.00
SAVINGS	284	SW	Net MW	S1: Energy Savings	Metric	Net Energy Savings: GWH, M Therms and MW (demand)	Codes & Standards (CS)	2018	333.00	N/A	N/A	272.00
CODES AND STANDARDS	285	SW	Count	Advocacy-Building	Metric	Number of Title 24 measures supported by CASE studies in 3-year rulemaking cycle (current work)	Codes & Standards (CS)	2018	64.00	N/A	N/A	12.00

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								2018				**2018**
CODES AND STANDARDS	286	SW	Count	Advocacy-Building	Metric	Number of Title 24 measures adopted by CEC in 3-year rulemaking cycle (indicator of past work)	Codes & Standards (CS)	2018	57.00	N/A	N/A	12.00
CODES AND STANDARDS	287	SW	Count	Advocacy-Appliance	Metric	Number of Title 20 measures supported by CASE studies in 3-year rulemaking cycle (current work)	Codes & Standards (CS)	2018	4.00	N/A	N/A	10.00
CODES AND STANDARDS	288	SW	Count	Advocacy-Appliance	Metric	Number of Title 20 measures adopted by CEC in current year	Codes & Standards (CS)	2018	3.00	N/A	N/A	10.00
CODES AND STANDARDS	289	SW	Count	Advocacy-Federal	Metric	Number of federal standards adopted for which a utility advocated (IOUs to list advocated activities)	Codes & Standards (CS)	2018	0.00	N/A	N/A	21.00
CODES AND STANDARDS	290	SW	Count	Advocacy-Federal	Metric	Percent of federal standards adopted for which a utility advocated (#IOU supported / # DOE adopted)	Codes & Standards (CS)	2018	0.00	N/A	N/A	1.00
CODES AND STANDARDS	291	SW	Count	Reach Codes	Metric	The number of local government Reach Codes implemented (this is a joint IOU and REN effort)	Codes & Standards (CS)	2018	5.00	N/A	N/A	25.00
CODES AND STANDARDS	292	SW	Count	Compliance Improvement	Metric	Number of training activities (classes, webinars) held, number of market actors participants by segment (e.g. building officials, builders, architects, etc.) and the total size (number of the target audience) by sector. (M) Number of training activities	Codes & Standards (CS)	2018	191.00	N/A	N/A	138.00
CODES AND STANDARDS	293	SW	Count	Compliance Improvement	Metric	Number of training activities (classes, webinars) held, number of market actors participants by segment (e.g. building officials, builders, architects, etc.) and the total size (number of the target audience) by sector. (M) Number of participants	Codes & Standards (CS)	2018	4,970.00	N/A	N/A	3,600.00
CODES AND STANDARDS	294	SW	Score	Compliance Improvement	Metric	Increase in code compliance knowledge pre/post training	Codes & Standards (CS)	2018	0.18	N/A	N/A	0.20
WET	295	SDGE	Count	Collaborations	Metric	Number of collaborations by Business Plan sector to jointly develop or share training materials or resources.	Workforce Education and Training (WET)	2018	Not Available			3.00

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								2018				**2018**
PENETRATION	296	SDGE	Count	Penetration	Metric	Number of participants by sector	Workforce Education and Training (WET)		Sector: Residential - 563 Nonresidential - 5,853 Segment: HVAC - 2299 Lighting - 271 Codes & Standards - 634 Foodservice - 126 Renewables & Sustainability - 418 Home Performance - 296 Real Estate - 222 Rates, Rebate & Incentive Programs - 355 Zero-Net Energy - 190 *Data was not tracked in line with other segments Building Design, Construction and Performance - 1270 Marketing, Finance, and Sales (MFS) -335			7,000.00
PENETRATION	297	SDGE	Percentage	Penetration	Metric	Percent of participation relative to eligible target population for curriculum	Workforce Education and Training (WET)	2018	0.08	2,267	26,671	0.13

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								2018				**2018**
DIVERSITY -DAC	298	SDGE	Percentage	Diversity	Metric	Percent of total WE&T training program participants that meet the definition of disadvantaged worker.	Workforce Education and Training (WET)	2018		4.7% (107/2,267 unique participants) - Report of provided zip codes from class registration database cross-referenced with the list of "disadvantaged worker" zip codes. Please note that these zip codes are a mixture of home and work addresses. SDG&E is planning to update required field of zip codes in 2019	4.7% (107/2,267 unique participants) - Report of provided zip codes from class registration database cross-referenced with the list of "disadvantaged worker" zip codes. Please note that these zip codes are a mixture of home and work addresses. SDG&E is planning to update required field of zip codes in 2019	0.05
DIVERSITY -DAC	299	SDGE	Percentage	Diversity	Metric	Percent of applicable incentive contract spend by vendors with a demonstrated commitment to provide career pathways to disadvantaged workers.	Workforce Education and Training (WET)	2018		Not Available	Not Available	
DIVERSITY	300	SDGE	Count	Diversity	Indicator	Number Career & Workforce Readiness (CWR) participants who have been employed for 12 months after receiving the training	Workforce Education and Training (WET)		Revised per guidance from Commission staff. This metric was intended to apply only to the Statewide CWR program, which will help Disadvantaged Workers enter the energy industry, and not technical upskill classes offered at the Energy Centers. As the lead PA, PG&E will report on this metric for the whole state.	Revised per guidance from Commission staff. This metric was intended to apply only to the Statewide CWR program, which will help Disadvantaged Workers enter the energy industry, and not technical upskill classes offered at the Energy Centers. As the lead PA, PG&E will report on this metric for the whole state.	Revised per guidance from Commission staff. This metric was intended to apply only to the Statewide CWR program, which will help Disadvantaged Workers enter the energy industry, and not technical upskill classes offered at the Energy Centers. As the lead PA, PG&E will report on this metric for the whole state.	

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								2018				2018
ETP	301	SW	Count	Research Prioritization	Metric	ETP-M1 Number of TPMs initiated (gas and electric combined), including one technology-focused pilot (TFP) TPM *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	302	SW	Count of TPMs	Research Prioritization	Metric	ETP-M2 Number of TPMs updated *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	303	SW	Count of Projects	Projects	Metric	ETP-M3 Number of projects initiated *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	2018	47.00	N/A	N/A	0.00
ETP	304	SW	Count of Events	Outreach	Metric	ETP-M4: Number of outreach events with technology developers with products <1 year from commercialization, including new technology vendors, manufacturers, and entrepreneurs. *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	2018	6.00	N/A	N/A	0.00
ETP	305	SW	Count of Events	Outreach	Metric	ETP-M5: Number of outreach events with technology developers with products <5 years from commercialization, including new technology vendors, manufacturers, and entrepreneurs. *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	See ETP-M4	See ETP-M4	N/A	N/A	See ETP-M4
ETP	306	SW	Count of TFPs	Pilots	Metric	ETP-M6: Number of projects initiated with cooperation from other internal IOU programs associated with each Technology-focused Pilot *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	N/A	N/A—TFPs will begin once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	307	SW	Count of TFPs	Pilots	Metric	ETP-M7 Number of Technology-Focused Pilot (TFP) initiated as part of the TFP TPM. *This number will be updated once all third party contracts have been awarded.	Emerging Technologies (ET)	N/A	N/A—TFPs will begin once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	308	SW	Percent of New Measures	Measure Tracing	Metric	ETP-T1: Prior year: % of new measures added to the portfolio that were previously ETP technologies *The PAs believe this is not suited for a metric with targets because ETP does not make decisions about new measures.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study
ETP	309	SW	Count of New Measures	Measure Tracing	Metric	ETP-T2: Prior Year: # of new measures added to the portfolio that were previously ETP technologies. *The PAs believe this is not suited for a metric with targets because ETP does not make decisions about new measures.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
ETP	310	SW	Percent	Measure Tracing	Metric	ETP-T3: Prior year: % of new codes or standards that were previously ETP technologies. *The PAs believe this is not suited for a metric with targets because ETP does not make decisions about new codes or standards.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study
ETP	311	SW	Count	Measure Tracing	Metric	ETP-T4: Prior Year: # of new codes and standards that were previously ETP technologies. *The PAs believe this is not suited for a metric with targets because ETP does not make decisions about new codes or standards.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study
ETP	312	SW	Lifecycle net kW	Savings Tracing	Metric	ETP-T5a: Savings of measures currently in the portfolio that were supported by ETP, added since 2009. Ex-ante with gross and net for all measures, with ex-post where available. *The PAs believe this is not suited for a metric with targets because ETP is a non-resource program and does not claim any savings.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study
ETP	313	SW	Lifecycle net kWh	Savings Tracing	Metric	ETP-T5b: Savings of measures currently in the portfolio that were supported by ETP, added since 2009. Ex-ante with gross and net for all measures, with ex-post where available. *The PAs believe this is not suited for a metric with targets because ETP is a non-resource program and does not claim any savings.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study
ETP	314	SW	Lifecycle net Therms	Savings Tracing	Metric	ETP-T5c: Savings of measures currently in the portfolio that were supported by ETP, added since 2009. Ex-ante with gross and net for all measures, with ex-post where available. *The PAs believe this is not suited for a metric with targets because ETP is a non-resource program and does not claim any savings.	Emerging Technologies (ET)	Per ED, to be determined by an ED study*	Per ED, to be determined by an ED study*	N/A	N/A	Per ED, to be determined by an ED study
ETP	315	SW	Count of project ideas by PA	Project Idea Tracing	Metric	ETP-T6a Number and source (as reported by submitter) of project ideas submitted OUTSIDE OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
ETP	316	SW	Count of project ideas by national labs	Project Idea Tracing	Metric	ETP-T6b Number and source (as reported by submitter) of project ideas submitted OUTSIDE OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	317	SW	Count of project ideas by manufacturers	Project Idea Tracing	Metric	ETP-T6c Number and source (as reported by submitter) of project ideas submitted OUTSIDE OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	318	SW	Count of project ideas by entrepreneurs	Project Idea Tracing	Metric	ETP-T6d Number and source (as reported by submitter) of project ideas submitted OUTSIDE OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00

BASE CATEGORY	Spreadsheet Index	PA	Units of Measurement	Metric Type	Metric/ Indicator	Business Plan Att A Description	Sector	Reporting Year	Reporting Number	Numerator (for metrics/indicators where unit of measurement is 'percent')	Denominator (for metrics/indicators where unit of measurement is 'percent')	Short Term Target (2018)
								2018				2018
ETP	319	SW	Count of project ideas by PA	Project Idea Tracing	Metric	ETP-T7a Number and source (as reported by submitter) of project ideas submitted AS PART OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	320	SW	Count of project ideas by national labs	Project Idea Tracing	Metric	ETP-T7b Number and source (as reported by submitter) of project ideas submitted AS PART OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)	N/A	N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	321	SW	Count of project ideas by manufacturers	Project Idea Tracing	Metric	ETP-T7c Number and source (as reported by submitter) of project ideas submitted AS PART OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)		N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00

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								2018				**2018**
ETP	322	SW	Count of project ideas by entrepreneurs	Project Idea Tracing	Metric	ETP-T7d Number and source (as reported by submitter) of project ideas submitted AS PART OF the annual TPM research planning process, for these categories of sources: PA, national lab, manufacturer, entrepreneur, etc.) *The PAs believe this is not suited for a metric with targets because ETP does not control the number of submissions nor their sources. Targets are set in a way to avoid forcing ETP to arbitrarily change existing processes in a way that may negatively impact the effectiveness of the program. Targets and sources may be updated in collaboration with ED after all 3P contracts are awarded.	Emerging Technologies (ET)		N/A—TPMs will initiated once 3P implentation contracts have been awarded.	N/A	N/A	0.00
ETP	323	SW	Number of lists	Statewide Goal Alignment	Metric	ETP-T8: List of ETP projects aligned with statewide goals that were initiated in the reporting year with specificity as to what aspect of each goal it is fulfilling. Goals will also be labeled in the ETP database. A list of eligible goals will be developed collaboratively with ED.	Emerging Technologies (ET)	N/A	N/A - The statewide goals to be tracked are still under collaborative discussion with ED and not yet available; hence, no data will be reported for 2018	N/A	N/A	1.00