BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues.	Rulemaking 13-11-005

SAN DIEGO GAS & ELECTRIC COMPANY (U 902 M) ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT 2019 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, and the Procedural Email Ruling issued on April 13, 2020 by Administrative Law Judge Kao, which extended the reporting deadline for Investor Owned Utility (IOU) Program Administrators until May 15, 2020, San Diego Gas & Electric Company ("SDG&E") hereby submits its Annual Report for 2019 Energy Efficiency programs and accomplishments.

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 2019 performance results as required in D.18-05-041 OP 9.

As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling

Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

Finally, consistent with D.18-01-004 OP 8, SDG&E is filing the public and confidential versions of the report showing current third-party-program contracts. The public version of the report will be served. 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). The report and the Updated Set of Final Metrics are available on SDGE.com.

Respectfully submitted,

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EXECUTIVE SUMMARY

SDG&E is committed to sustainability and environmental stewardship. Our energy efficiency programs reinforce that commitment and continue to serve our diverse customer base as well as the communities that we live in. Consistent with SDG&E's mission to improve customer experiences through innovation and technology while managing costs, our energy efficiency programs continue to focus on making it easier for our customers to participate in our programs, save energy, manage their energy bills and reduce their carbon footprint. SDG&E's energy efficiency portfolio is designed to contribute to the State's goal of doubling energy efficiency savings by 2030.

2019 Accomplishments

SDG&E's 2019 energy efficiency portfolio achieved substantial annual energy savings through our comprehensive programs and offerings. As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report. In spite of this exclusion, customers saved approximately 243 gigawatt hours (GWH), 53 megawatts (MW), and 3.27 million therms in 2019. The substantial gas and electric savings directly support the State's goal of reducing greenhouse gas (GHG) emissions. The portfolio savings resulted in a reduction of approximately 179,029 annual tons of CO2, the equivalent of removing approximately 38,678 thousand cars from the road[1]. SDG&E's energy efficiency portfolio provided potential customer annual bill savings of approximately $64 million.

2019 program strategies were guided by innovation, technology and customer comfort.

[1] This is based on the conversion from EPA Calculator at https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references.

Noteworthy highlights of SDG&E's programs are:

- SDG&E's Behavioral Program Home Energy Report, which was distributed to just over 760,000 SDG&E residential customers in 2019, assisted residential customers' transition to the new Time Of Use (TOU) rates.
- A joint instant rebate for smart thermostats gave qualified customers an additional $50 demand response rebate in addition to the $75 offered through energy efficiency, to promote integrated demand side management. An online portal was created for customers to facilitate enrollment in the demand response program.
- Through Local Government Partnerships, SDG&E supported participating public agencies in developing their long term municipal energy management strategies including intensive audits of public buildings, payback analyses and implementation plans. These strategies identified significant energy efficiency potential as well as the opportunity to leverage IDSM and building automation systems to reduce bills and lower greenhouse gas emissions. In addition, cities across the region strengthened their climate action plans and leveraged their local government authority to develop ordinances for energy efficiency and building energy benchmarking that will result in sustainable energy reductions.
- SDG&E collaborated with the Commission staff, other California utilities and stakeholders to significantly reduce project response times by 25% and facilitate customer project implementation.
- SDG&E 2019 Energy Showcase awards recognized the energy efficiency leadership of 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. This year's Excellence in Energy Leadership winners by sector are:
    - Commercial: KNSD/NBC 7 San Diego, Ocean Discovery Institute and Viejas Casino & Resort
    - Ag/Industrial: Hunter Industries
    - Public: Grossmont Union High School District, Helix Water District and

SANDAG

- Residential: North Park Seniors by Community Housing Works

- SDG&E was a leader in developing and launching solicitations for local and statewide third-party implemented programs, in compliance with Commission direction. This was accomplished by participating in a lead role on the statewide joint California utility solicitation team and through rigorous development of a thorough solicitations framework, in collaboration with the Energy Efficiency Procurement Review Group, and Independent Evaluators.

2020 Outlook

SDG&E's energy efficiency programs made significant strides in 2019. For 2020, SDG&E's objective is to continue the transition of our programs and offerings to a market-based delivery through the third-party program implementer model. SDG&E expects to contract 40% of its portfolio to third-party program implementers by the end of 2020. The local Small Commercial program, local Large Commercial program, statewide Heating, Ventilation Air Conditioning (HVAC) program are scheduled to be executed by mid-2020 and the local Multifamily program and statewide Plug Load and Appliances (PLA) program are expected to be contracted by late 2020. These contracts will result in the launching of five new programs in 2021.

The key solicitations themes of innovation, cost-effectiveness and customer service will remain an emphasis as SDG&E strives to improve the customer experience and pace of energy savings achieved through these ratepayer-funded programs. Extensive collaboration with the California Public Utilities Commission (Commission), state, regional, local and other stakeholders will continue as SDG&E prepares to implement its new rolling portfolio and help deliver the goal set forth by the State of California to double energy efficiency by 2030. SDG&E will continue to operate its programs while concurrently soliciting and launching the new third party programs and winding down legacy programs.

SDG&E looks forward to establishing and administering its new third-party implemented programs and complete its transition to a new portfolio by 2023. The Commission recognized the uncertainty of this unprecedented dependence on third party program delivery and statewide

administration. SDG&E recognizes, and is transitioning to address, the challenge to provide diligent oversight for these implementers to ensure they are on track to meet their program savings targets, remain cost-effective and meet contract metrics. SDG&E will also take on the responsibility to work with its implementers to overcome challenges that are encountered to ensure cost effective program delivery.

One of the major challenges to SDG&E's energy efficiency programs in 2020 is the impact of the COVID-19 global pandemic. At the end of the first quarter, SDG&E suspended certain program activities to protect the safety and health of its employees, customers and contractors. As the San Diego region prepares to ease its Stay At Home order, SDG&E is developing ramp-up plans for all its operational areas, including customer programs. While the full impacts on the economy and the energy efficiency marketplace are still being assessed at the time that this report is being compiled, it is likely that the effects will be significant and protracted across the portfolio of programs. Impacts on new third party programs that are expected to launch at the end of 2020 and early 2021 are also unknown at this time. Collaborating with stakeholders across the state, SDG&E is actively planning and devising strategies to help restart the pace of energy efficiency in its service territory.

STATEWIDE RESIDENTIAL ENERGY EFFICIENCY PROGRAMS

A. 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 2019, 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 2019, 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 allowed 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 second year of comparison assisted in planning of features and functions needed for high levels of customer engagement and energy savings potential. This effort also prompted a more streamlined list of customer offerings in the coming years.

The HER platform also allowed customers to earn points and rewards for audit completion; 2019 marketing campaigns prompted customers to add household information to

enable more relevant recommendations and HER comparisons.

Challenges/Changes for 2020

Program year 2020 will include widely promoted energy efficiency alerts and online audits available on the HER customer platform. including, but not limited to, online audit features. To address potential energy usage increases due to the stay-at-home orders in response to COVID-19, SDG&E is continuing to expand participation in the program to assist customers with recommendations on how to manage their energy usage. Additionally, approved workpapers for online audit offerings are expected to allow for reported savings in the coming years.

2019 Program Accomplishments.

Online audits available for customers on both platforms resulted in more than 5,900 completed audits and action plans for residential customers. Conversion rate for those that began the online audits associated with Home Energy Reports platform averaged 83% over the 12-month period. Marketing efforts to promote the use of the online audit associated with the Home Energy Report resulted in an increase of the number of audits completed by report recipients. Those customers who completed the audit were able to enhance the customer comparison module and have tailored tips to reduce their usage.

B. 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.

1. 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. In 2019, customers accessed rebates through the SDG&E rebate portal at sdge.com/apply or by

submitting a paper application by mail. The Program worked closely with SDG&E's online Marketplace to provide customers with relevant information related to energy products and associated rebates.

Implemented Strategies

SDG&E continued to identify areas of opportunity to increase customer participation while staying cost-effective. Continuing in 2019 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 follow a trajectory of diminishing participation and returns. In the past, the downstream program was necessary to ensure that customers could purchase from their desired retail location. This is changing as more big box retailers participate in utility rebate programs and new statewide programs are scheduled for launch in the near future. 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 displayed an icon to identify which measures and units qualified for a rebate. Customers then clicked through to the 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. SDG&E continued to see an increase in completed applications because of the improvements made to the Downstream website and application, which included clearer instructions and updated information. This led to a decrease in customer application errors, incomplete applications as well as a lower call-center volume regarding application questions. This resulted in faster processing times and a greatly improved customer experience.

Challenges/Changes for 2020

In mid-2019, a new statewide workpaper reduced the savings of smart thermostats, which has caused challenges in keeping the measure cost-effective, and this trend will continue into the 2020 program year. Other challenges include customers increasingly receiving their rebates

through the Point of Sale subprogram and limited options for rebating new products. Because of these challenges, in addition to PLA moving to a statewide midstream/upstream model in the near future, it was decided that SDG&E would no longer offer rebates through Program 3203 and closed the program in the 2020 ABAL.

2019 Program Accomplishments

In mid-2019, SDG&E opened Smart Thermostats to all Energy Star models. This allowed customers to have a wider range of options and choice when making their decisions. Other accomplishments include clearer criteria when qualifying products, more collaboration between the Program team and SDG&E's Energy Savings Center to ensure customers were receiving accurate information and implementing cost cutting processes, such as moving customers away from using paper applications and towards the online application process. The 3203 Program also continued to collaborate with Marketplace to offer a wide range of information on measures and rebates that the customer may find appealing. Overall, Program 3203 has served as a backbone for residential energy efficiency rebates for many years and has assisted thousands of customers over its lifespan.

2. 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, 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 at checkout, removing traditional downstream program barriers like limited impact and cumbersome customer application process. With the Downstream Program ending in 2020, POS will be the main tool used for rebating energy efficient products for SDG&E's residential customers.

Implemented Strategies

In 2019, SDG&E's PLA - POS Subprogram continued to work with retailers to increase

customer participation in midstream and upstream channels. The Program continued to make store visits and conduct in-store associate trainings to ensure that retailers were well versed with the POS process and current offerings. 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. Overall, there were over 900 field visits to retailers in the 2019 program year.

Because of market conditions and changing savings for the smart thermostat measure, new implementation strategies were put to work in 2019. For smart thermostats, all Energy Star listed products were made eligible for a rebate beginning mid-year. The PLA Program also partnered with Demand Response (DR) to offer a joint rebate of $125 on qualifying smart thermostat products. A new online portal was created for customers to easily enroll in the DR program as they were being qualified for the traditional PLA rebate. Additionally, the Program focused its resources on marketing heat pump water heaters and, for a limited time, increased their rebate at the end of the year to $500. This increase in the rebate amount led to five times the sales activity in a single month than is typically realized.

Challenges/Changes for 2020

A central challenge for PLA-POS is the persistent reduction in savings values for smart thermostats and other energy efficient products. The majority of SDG&E's climate zones are not ideal for thermostat savings, which is reflected in the approved savings assumption workpaper update earlier this year. Additionally, customer interest in other products such as clothes washers is limited due to low rebate value and big box retailers no longer interested in carrying product. Changes include offering joint rebate efforts, focused marketing on products with high savings, and adding new products that can spark customer interest. One such product is the variable speed pool pump. One of the key challenges for 2020 is making Program 3204 cost-effective, as it has a history of falling below a 1.25 TRC. One strategy implemented in 2019 to achieve cost-effectiveness was the addition of variable speed pool pumps to the measure offer list. The new 2020 new workpaper shows an increase in the savings of this measure. Working with both

internal (i.e. SDG&E Engineering) and external (other IOUs) stakeholders, the PLA team added the measure to our 2020 filing. Due to a gap in this offering for a number of years, there may be a latent demand in the SDG&E market for this product and the program looks forward to implementing this measure in 2020.

In the remaining months of 2019, the PLA team worked with other IOUs on implementing best practices from their programs; and contacting retailers and contractors who would offer the rebate.

SDG&E is currently in solicitation for the new Statewide PLA program and expects to have the new program in place early in 2021.

2019 Program Accomplishments

The Program opened the smart thermostat rebate to all qualifying models on the Energy Star list, with many of these models already available at participating retailers. This change increased the number of qualifying thermostats found on SDG&E's instant rebate website by approximately 50%. During the end of 2019, the Program increased the rebate of heat pump water heaters from $350 to $500 to increase customer participation for the 2019 Program Year, which equated to the Program's best period for rebating the heat pump water heaters (HPWHs) during the year.

3. SDGE3207 SW-CALS Multifamily Energy Efficiency Rebate Program

Program Description

The Multifamily Energy Efficiency Rebate (MFEER) Program is geared towards property owners, property managers and tenants of residential multifamily dwelling units. The MFEER Program is designed to complement SDG&E's residential energy efficiency portfolio by providing comprehensive energy efficiency measures to such customers within its service territory. An additional objective of the program is to help customers realize both short-term and long-term energy savings in a cost-effective manner and to increase customer knowledge of energy efficiency. In 2019, this program used the direct install approach to allow property owners and their tenants to take advantage of the no-to-low cost measures, efficient showerheads, aerators, fan delay controllers, smart thermostats, offered by the program. The

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. Eligible customers include property owners, managers and authorized agents of existing residential multifamily complexes with two or more dwellings.

Implemented Strategies

In 2019 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 2019, SDG&E continued to utilize the Single Point of Contact (SPOC) approach to provide a one-stop shop customer solution. The SPOC coordinates common area and in-unit enrollments of all multifamily programs so they act as one comprehensive, whole building program from the participant's perspective. In 2019, SDG&E continued to remain focused on optimizing measure mix and measure costs of the program in order to improve cost effectiveness. For example, SDG&E worked with the program implementer 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. Furthermore, SDG&E set Not-to-Exceed values on the contracted quantities of measures so as to better control the implementation of the agreed upon measure mix. All of this allowed SDG&E to pursue the program's goal of maximizing efficiency of program costs while incentivizing the installation of energy efficient products within the residential multifamily market segment.

Challenges/Changes for 2020

As deemed savings are regularly updated, SDG&E continues to analyze the different measures offered in the MFEER program. Although this program currently has limited cost-effective offerings, T8 LED fixtures, low flow showerheads, and faucet aerators will still be made available to customers for the majority of 2020 since their new updated statewide workpapers continue to retain their cost-effectiveness. In addition, SDG&E plans to expand program participation to "Hard-to-Reach" (HTR) participants within the Multi-Family

Residential sector during the upcoming program year(s). The Multifamily program offerings for SDG&E customers will continue through Q3 of 2020. Per the Solicitation Schedule, SDG&E anticipates that the new Third-Party Implementer for the Multifamily residential segment will be in place by the end of Q4 2020.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown.

2019 Program Accomplishments

In 2019 the MFEER program reached over 570 multifamily dwellings within SDG&E's service territory. In doing so, SDG&E facilitated participation in all potential energy efficiency and low-income customer programs by multifamily property owners and managers, while minimizing confusion around program participation and qualification. Furthermore, in 2019 the MFEER program successfully delivered a comprehensive mix of offerings ranging from smart programmable thermostats and programmable variable speed drive pool pumps, to air conditioner (AC) Diagnostics and low flow showerheads. The program continued to operate via a Direct Install delivery mechanism which is a no-cost to low-cost customer offering. This ultimately aided participant to overcome the main market barrier (cost). These efforts supported program participation and awareness, promoting the benefits of energy efficiency across SDG&E's service territory.

4. SDGE3209 SW-CALS EUC WHRP - Advanced Home Upgrade

Program Description

The Advanced Home Upgrade (AHU) program provides assistance and incentives for home improvement projects that can increase energy efficiency and make homes more comfortable. The program provides an incentive for a comprehensive, whole-house approach that includes improvements such as heating, air-conditioning, water heating, duct sealing and insulation. Energy savings for these home upgrades are calculated using a comprehensive energy modeling approach.

Implemented Strategies

Building off 2018 strategies, the main goal of the Program is to only offer measures that increase savings and participation. Approximately 160 single family homes received incentives in 2019. The focus for 2019 was to eventually eliminate the MF portion of the Home Upgrade Program and convert the program to Non-Resource with the objective of making it as efficient as possible, both in terms of customer experience and the overall portfolio.

Challenges/Changes for 2020

Because of the low participation and lack of cost-effectiveness of this program, SDG&E eliminated the Multifamily and Home Energy Upgrade components in 2019 and converted the remaining component to a non-resource program. This will allow continued program offerings to customers while SDG&E solicits for a new third party program that will offer cost-effective services. While barriers have caused multiple issues, the program continues to look for savings opportunities and new strategies to reach customers. One such strategy involves laying the ground work to partner with several municipalities in 2020. There are similar programs in several cities throughout SDG&E's service territory that customers are enrolling in. Through active cooperation and communication, Advanced Home Upgrade has the opportunity to compliment these programs with its offerings and incentives. This will allow SDG&E to provide incentives to customers while assisting municipalities with their climate and energy goals.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown.

2019 Program Accomplishments

Although AHU faced several challenges in 2019, the program successfully enrolled and incentivized over 100 customers who were upgrading their homes.

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 with Building Energy Efficiency Standards for Residential and Non-Residential Buildings (Standards). The program also aims to prepare builders for changes to building 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. The collaborative effort with Codes and Standards ensured builders are educated on the benefits of advanced attics, walls, and windows as well as other identified residential new construction solutions, and on the cost-benefit associated with these more advanced measures. The 2019 program year was another successful year for the CAHP, and SDG&E was able to provide incentives for over 14 projects across its service territory. In preparation for the Statewide Solicitation slated for Q4 2020, the program was closed at the end of 2019. The program will continue to work with builders on projects that are still pending completion.

Challenges/Proposed changes for 2020

After multiple program cycles of the program, 2019 marked the final year of the current offering. IOUs are collaborating on RFA requirements for the new statewide program expected to launch in late 2020.

2019 Program Accomplishments

Incentives were paid out to approximately 14 individual project sites and included those

that have completed all phases of construction. As additional projects are completed, SDG&E will continue to pay incentives to approved compliant sites. SDG&E has worked collaboratively with the Statewide lead for the new Statewide Residential New Construction program to provide input and assist with any requests made of the statewide team.

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, leverages relationships within the HVAC industry and helps transform the market towards a sustainable and quality driven future. 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 California Long Term Energy Efficiency Strategic Plan (CLTEESP) 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

The IOUs continued their engagement with and support of the Western HVAC Performance Alliance (WHPA) in 2019 and gained HVAC industry insights through such participation.

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

Challenges/Changes for 2020

The program was closed at the end of 2019 due to the Statewide Upstream/Midstream HVAC program coming online in 2020. As the statewide administrator for this new program,

SDG&E expects to have the new implementer contracted and approved by the end of 2020.

2019 Program Accomplishments

In anticipation of the Statewide Upstream/Midstream HVAC program coming online in 2020, the program continued with its 2018 strategies and had no new strategic initiatives in 2019.

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 opportunities to influence the repair, replace or purchase decision and transform the HVAC market through the supply chain.

Implemented Strategies

Manufacturers and distributors continued to influence HVAC contractor purchases and stocking, and used the incentives to promote high efficiency product sales.

Challenges/Changes for 2020

This program has historically had a low cost-effectiveness ratio. However, a new Statewide HVAC Upstream/Midstream program is part of the 2020 solicitation for third party program implementation. SDG&E expects that with this new program, its cost effectiveness will improve through innovative program delivery. In anticipation of the new program, the 2019 program was closed at the end of its annual cycle in December 2019.

2019 Program Accomplishments

Distributor engagement and outreach was the focal point of the program in 2019, resulting in the enrollment of seven new distributors. The program achieved its best participation and savings results to date. Although the program closed at the end of 2019, it helped inform the statewide Midstream/Upstream HVAC program solicitation. The statewide Midstream/Upstream HVAC solicitation was in the RFP phase at the end of 2019.

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 key decision points of the market process. The expected outcome of the program is 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.

STATEWIDE COMMERCIAL ENERGY EFFICIENCY PROGRAMS

A. SDGE3216 SW-COM-Customer Services-Benchmarking

Program Description

This program was created to support compliance with Assembly Bill (AB) 802, which was signed into law in October 2015. The bill required that by January 1, 2016, utilities 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 2019, 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 California Energy Commission (CEC) to continue to develop and automate 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.

Challenges/Changes for 2020

In 2020, the program will continue in 2020 but will no longer be funded through the non-energy efficiency monies. It will be funded through FOOTAGESDG&E's General Rate Case budget Although it is no longer funded through the EE Portfolio, the benchmarking services continuing to be will continue to be offered by SDG&E and is available to all customers in accordance with AB 802.

Program Accomplishments

The program serviced approximately 850 new benchmarking requests in 2019. This is approximately the same amount that was serviced in 2018.

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

Program Description

The Comprehensive Audit Program is an Integrated Demand-Side Management (IDSM) audit offered to commercial customers and 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) ASHRAE Level 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) ASHRAE Level 2, which is a more detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Level 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 Level 1 and Level 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 effectively reduce operating costs.

Implemented Strategies

The Comprehensive Audit Program had fewer audits performed at customer sites in 2019 as compared to 2018. The decrease in the numbers of audits was mainly due to customer participation with the ASHREA Level 2 audit (which is a longer and larger audit) as compared to completing the ASHRAE Level 2 audit. Vendors and SDG&E 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 Level 1 audits, which resulted in the customer receiving a report that

includes a complete inventory of their energy consuming equipment. SDG&E also performed Level 2 audits for customers who had previously completed a Level 1 audit. The Level 2 audit was performed based on specific measures from the Level 1 report, allowing for a comprehensive site evaluation.

In 2019, SDG&E received 68 commercial audit requests and approximately 42 were completed in 2019. The remaining audits are targeted to be completed by in 2020.

Challenges/Changes for 2020

Historically there have been more audit requests than available funding. SDG&E ensures that the program has a comprehensive mix of customer types, and customers who have previously requested an audit and not received one are being prioritized in 2020.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown. Meanwhile, SDG&E has transitioned to remote or virtual audits to the extent possible, to continue to assist customers.

2019 Program Accomplishments

Although SDG&E performed fewer audits in 2019 as compared to 2018, the quality and quantity of savings identified was greater. On a per project basis, identified savings increased by approximately14%. SDG&E serviced many different customers in our program, the largest group coming from schools and large office buildings, but also including Assemblies, Community Colleges, Lodging, Small Office, and Restaurants.

C. 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 and

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

Implemented Strategies

In 2019, SDG&E made additional enhancements to its project tracking and payment system known as Energy Efficiency Collaboration Platform (EECP) by adding a new functionality to efficiently track cancelled projects, as well as added a configuration to allow for automated communication with the customer.

SDG&E also added regular training sessions for customers and trade professionals to reinforce and improve the knowledge of program participants on the various details and requirements of the program.

Challenges/Changes for 2020

SDG&E plans to continue enhancing EECP to identify process improvements, such as automated agreements and enhanced quality control features. SDG&E will continue to market the program emphasizing improvements, including the streamlined custom review process and new measure offerings.

2019 Program Accomplishments

The program received more than double the amount of new applications than the amount received in the prior year.

A significant accomplishment in 2019 was responding to the feedback from customers, trade professionals and internal stakeholders regarding the challenges of complying with the complex program requirements. SDG&E worked closely with the CPUC's Custom Projects Review (CPR) team to develop and implement improved processes throughout the year, including ensuring projects that were placed on the Custom Measure & Project Archive (CMPA) were complete and ready for review by developing and enhancing the Ready for Review Checklist. SDG&E also collaborated with Commission Staff on a more efficient review process. These improvements had the effect of reducing SDG&E's response time by 25% to CPR requests and enabled a quicker response for our customers.

Additionally, SDG&E redesigned the core landing page on SDG&E's website (see

https://www.sdge.com/businesses/savings-center/rebates-incentives/incentives)for the custom programs and received positive feedback from Account Executives and Customers who were initially surveyed regarding the complexities of the program.

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

Program Description

The Savings By Design (SBD) program serves SDG&E's new construction segment. It promotes integrated building design by providing design assistance with energy efficient alternatives and owner incentives to participants who design spaces that perform at least 10% better than Title 24.

Implemented Strategies

To improve program visibility in SDG&E service 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. In 2019, the statewide SBD team continued to collaborate to help transition the program to be administered as a statewide Non-Residential New Construction program, the RFA for which was released in Q2 2019.

Challenges/Changes for 2020

In 2019, the SBD program continued to experience reduced program activity. For projects using the Whole Building-approach, significant modifications to the current software tool were needed in order to meet Title 24 code changes and calculation methodology. The software update took several months, and as a result some projects were either delayed or dropped out of the program, as some customers needed to complete their projects sooner. Once the modifications were finalized and updated, the software tool was used by the statewide SBD program to qualify and calculate incentives and energy savings for affected projects. Projects that were unable to qualify under the updated software were recalculated through the alternative Systems Approach, if applicable, and became eligible to move forward with program participation.

Overall, program participation is declining over time, largely due to increased efficiency

required to comply with Title 24 code updates. Some customer sectors, such as hospitals, have experienced greater challenges with qualifying for the program as they prepare to comply with the 2019 Title 24 building energy standards, which became an effective for hospitals beginning in January 2020.

A new statewide program is expected to be in place in 2021 as the solicitation for the new Statewide new construction program completes by the end of this year. SDG&E continues to collaborate with the statewide team to support a Q2 2020 RFP release. In the meantime, SDG&E will continue to administer the Whole Building and Systems Approach offerings through the local SBD program in 2020, and will contract projects until the new statewide, non-residential new construction program is launched.

2019 Program Accomplishments

SDG&E continued to qualify projects through the Systems Approach when they were not eligible for participation through the Whole Building approach. SDG&E continued to also assist customers and design teams with their calculations. An evaluation of the current project lifecycle was done, and communications were added and updated to ensure the customer and their design teams were properly notified during each major milestone, and what they could expect moving into the next phase.

SDG&E continued work with the CPUC staff to ensure projects placed on the CMPA were complete and ready for review, and also collaborated with Commission Staff to institute a more efficient review process. SDG&E has reduced their response time to CPR team requests to help streamline this process and ensure a quicker response for our customers.

E. 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 prescriptive energy savings and incentive dollars and are generally intended for projects that have well-defined energy and demand savings estimates.

Implemented Strategies

In 2019, the Commercial Rebates Program continued with two distinct program deliveries – the Instant Lighting Rebates Program and 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. Because of the changes in lighting standards, SDG&E implemented various marketing strategies to provide advanced notice to businesses regarding short term lighting rebates. An example of this included running an email campaign targeting car dealerships to promote exterior lighting fixtures. Marketing campaigns such as this one, resulted in several new projects and helped increase participation within the program. Non-lighting products continued to be offered in Energy Efficiency Business Rebates Program, which utilized a downstream channel. In order to increase participation within the Energy Efficiency Business Rebates Program, SDG&E increased rebates on non-lighting measures as a limited-time offer. The limited-time offer marketing strategy was implemented to create a sense of urgency and motivate customers to take full advantage of the increased rebate amounts.

Challenges/Changes 2020

A challenge for this program is the limited lighting offerings. This is due to the fact that building codes for lighting continue to become more stringent. To combat this challenge, SDG&E executed multiple marketing campaigns and short-term incentive specials to promote customer participation in the program. SDG&E also consistently notified the market when lighting changes were forthcoming to encourage adoption.

2019 Program Accomplishments

In the Instant Lighting Rebates Program, SDG&E brought on approximately 9 new distributors to help reach more customers and increase the number of rebated products in the market. SDG&E also added parking garage fixtures, which allowed for a broader measure mix within the program's portfolio. In the Energy Efficiency Business Rebates Program, SDG&E added the following measures: floating head pressure controls, floating suction pressure controls, and 30, 40, and 50-gallon storage water heaters. The addition of these measures created a more diverse offering for SDG&E's business customers. Monthly trade professional trainings

continued in 2019, and continued to be well-attended and well-received. These trainings provide a high-level overview of the programs and give trade professionals the opportunity to interface directly with SDG&E program advisors.

F. 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 program education and marketing efforts, leverage relationships within the HVAC industry and help transform the market towards a sustainable and quality-driven future. 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 CLTEESP 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 2019, the IOUs continued engagement in and support of the WHPA , which contributed to HVAC industry insights. The HVAC programs will transition to the statewide model in 2020. HVAC programs will be proposed, designed and delivered by third-party implementers.

Challenges/Changes for 2020

he program was closed down at the end of 2019 due to the upcoming statewide Upstream/Midstream HVAC program. SDG&E expects that the program will be approved before the end of 2020 and implementation begin in 2021.

2019 Program Accomplishments

In 2019, the program successfully continued to support the WHPA by attending board meetings and providing feedback to the HVAC industry. In addition, the program provided educational opportunities offered through the Energy Innovation Center. These efforts were instrumental for the HVAC industry and helped to inform the future statewide HVAC program

by helping to define strategy for the future program.

STATEWIDE INDUSTRIAL ENERGY EFFICIENCY PROGRAMS

A. SDGE3227 SW-IND-Strategic Energy Management

Program Description

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

Implemented Strategies

SDG&E and its contracted implementer worked closely in 2019 to complete the first year of the SEM program and continue into the second year with all seven participating sites enrolled. Activities included four workshops, year 1 completion reports and savings claims, and submittal of two custom projects to the CMPA, one of which has been granted the notice to proceed. The most prominent activities for participants in 2019 were the completion of their energy projects. Collectively, the seven participants completed approximately 119 energy projects and there are approximately 104 more in progress.

Workshops held in 2019 were:

- January: Workshop 4, Engaging Employees
- April: Workshop 5, Making it Stick
- August: Workshop 6, Saving Energy 201
- December: Workshop 7, Tracking Energy Performance 201

Participants completed a variety of employee engagement activities, including Earth Day fairs, compressed air leak campaigns, idea submission campaigns, and up-to-the-moment display of energy savings by project.

The energy management software used in the program includes persistence strategy information. All participants identified a persistence strategy for every completed project in 2019. The cohort is using an additional persistence tracking tool, which lays out a calendar for

required checks on persistence.

All participants completed milestone 2 by January 23, 2019 and milestone 3 by July 10, 2019 and received $1,000 incentives for each. Both milestones required updated production and energy data, updated opportunity registers, notes and persistence strategies on every completed project.

The contracted implementer is using cloud-based SEM software for all participant-facing documents and information related to the SEM program. Participants track their energy models in cumulative-sum and other graphs through this software. 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.

Challenges/Changes for 2020

Several of the participant sites have posed issues for energy modeling. In general, cohort participants are fast-growing, energy progressive (with on-site generation), and agile (moving equipment and functions among buildings frequently, in and out of the cohort boundary). These three factors combined to render baseline models less useful than the ideal when calculating Year 1 Savings. Numerous non-routine events had to be accounted for and in some cases bottom-up calculations were preferred by the implementer and/or CPUC when it came to Year 1 completion reporting. SDG&E recommends M&V guidance on bottom-up calculations.

The implementer recommends making the detailed energy map optional in Year 2. The amount of work required for participants to complete the detailed map is large and perhaps excessive for their level. The time required would severely detract from energy project completion, and participants will be better served by making this decision themselves.

2019 Program Accomplishments

In 2019, the SEM program had three capital projects that were submitted to the CMPA that originated from SEM Program Participants and as a result of the SEM Program work. Participants from all seven sites were excited about all aspects of the SEM program structure and attended all 2019 workshops and completed all required program milestones in a timely manner. The participants completed numerous large and complex BRO (Behavioral, Retrofit and

Operational) projects. The programs 1st year savings were above projected targets.

B. SDGE3228 SW-IND-Customer Services – Benchmarking

Program Description

This program was created in compliance with Assembly Bill 802, which was signed into law in October 2015. The bill requires that by January 1, 2016, utilities 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 requires 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 2019, 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 California Energy Commission (CEC) to continue to develop and automate 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.

Challenges/Changes for 2020

The program will continue in 2020 and will be managed by SDG&E's Business Services team and funded through the General Rate Case (GRC). While it is no longer funded through the EE Portfolio, the benchmarking process is still being offered by SDG&E and is available to all customers in accordance with AB 802.

2019 Program Accomplishments

The program serviced approximately 100 new benchmarking requests in 2019. This is same average that was serviced in 2018.

C. 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) Level 1, which consists of a high-level walkthrough that provides an equipment inventory and high-level payback estimates of the identified measures; and 2) Level 2, which is a more detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Level 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 Level 1 and Level 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 a decrease of approximately 50% in program participation in 2019. Although there has been a reduction in the number of online applications submitted, the projects serviced in 2019 were larger in scope and majority were Level 2 audits. Audits were performed for various business types including manufacturing facilities, water treatment plants, military facilities, and research and development facilities. The Level 2 audits resulted in the customer receiving a report that includes a complete inventory of their energy consuming equipment. SDG&E also performed Level 2 audits for customers that had completed a Level 1 audit. The Level 2 audit was performed based on specific measures from the Level 1 report, allowing for a comprehensive evaluation. In 2019, SDG&E received 13

industrial audit requests and 9 were completed. SDG&E will complete the remaining audit requests in 2020.

Challenges/Changes for 2020

Historically there have been more audit requests than available funding. SDG&E ensures that the program has a comprehensive mix of customer types and customers who have previously requested an audit and not received one are being prioritized in 2020.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown. Meanwhile, SDG&E has transitioned to remote or virtual audits to the extent possible, to continue to assist customers.

2019 Program Accomplishments:

In 2019, with the audits performed the quality and quantity of savings identified was greater per project by approximately 14%.

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

Implemented Strategies

In 2019, SDG&E made additional enhancements to its project tracking and payment system known as Energy Efficiency Collaboration Platform (EECP) by adding a new functionality to efficiently track cancelled projects, as well as added a configuration to allow for automated communication with the customer.

SDG&E also added regular training sessions for customers and trade professionals to reinforce and improve the knowledge of program participants on the various details and requirements of the program.

Challenges/Changes for 2020

SDG&E plans to continue enhancing EECP to identify process improvements, such as automated agreements and enhanced quality control features. SDG&E will continue to market the program emphasizing improvements, including the streamlined custom review process and new measure offerings.

2019 Program Accomplishments

A significant accomplishment in 2019 was responding to the feedback from customers, trade professionals and internal stakeholders regarding the challenges of complying with the complex program requirements. The program received more than double the amount of new applications than processed in the prior year. As a result of customer feedback, SDG&E worked closely with the CPUC's Custom Projects Review (CPR) team to develop and implement improved processes throughout the year, including ensuring that projects that were placed on the Custom Measure & Project Archive (CMPA) were complete and ready for review by developing and enhancing the Ready for Review Checklist. Additionally, SDG&E redesigned the core landing page on the web site for the custom program and received positive feedback. SDG&E also collaborated with Commission Staff on a more efficient review process. These improvements had the effect of reducing SDG&E's response time to CPR requests and enabled a quicker response for our customers.

E. SDGE3233 SW-IND-Deemed Incentives

Program Description

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

Implemented Strategies

In 2019, the Industrial Rebates Program continued with two separate program deliveries – the Instant Lighting Rebates Program and 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. Because of the changes in lighting standards, SDG&E implemented various marketing strategies to provide advanced notice to businesses of short term lighting rebates, including an email campaign to promote exterior lighting fixtures. Marketing campaigns resulted in several new projects and helped increase participation within the program. Non-lighting products continued to be offered in Energy Efficiency Business Rebates Program, which utilizes a downstream channel. In order to increase participation within the Energy Efficiency Business Rebates Program, SDG&E increased rebates on non-lighting measures as a limited-time offer. The limited-time offer marketing strategy was implemented to create a sense of urgency so that customers would take full advantage of the increased rebate amounts.

Challenges/Changes 2020

A challenge for this program is the limited lighting offerings. This is due to the fact that building codes for lighting continue to become more stringent. To combat this challenge, SDG&E executed multiple marketing campaigns and short-term incentive specials to promote customer participation in the program. SDG&E also consistently notified the market when lighting changes were forthcoming to encourage adoption.

2019 Program Accomplishments

In the Instant Lighting Rebates Program, SDG&E brought on approximately 9 new distributors to help reach more customers and increase the number of rebated products in the market. SDG&E also added parking garage fixtures, which allowed for a broader measure mix within the program's portfolio. In the Energy Efficiency Business Rebates Program, SDG&E added the following measures: floating head pressure controls, floating suction pressure controls, and 30, 40, and 50-gallon storage water heaters. The addition of these measures created a more diverse offering for SDG&E's customers.

STATEWIDE AGRICULTURAL ENERGY EFFICIENCY PROGRAMS

A. SDGE3234 SW-AG-Customer Services-Benchmarking

Program Description

This program was created in compliance with Assembly Bill 802, which was signed into law in October 2015. The bill requires that by January 1, 2016, utilities 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 requires 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 2019, 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 California Energy Commission (CEC) to continue to develop and automate 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 agricultural customers with offices to better understand their energy consumption through standardized energy use metrics.

Challenges/Changes for 2020

The program will continue in 2020 and will be managed by SDG&E's Business Services team and funded through the GRC. While it is no longer funded through the EE Portfolio, the benchmarking process is still being offered by SDG&E and is available to all customers in accordance with AB 802

2019 Program Accomplishments

The program serviced approximately 50 new benchmarking requests in 2019. This is same average that was serviced in 2018.

B. 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) Level 1, which consists of a high-level walkthrough that provides an equipment inventory and high-level payback estimates of the identified measures; and 2) Level 2, which is a detailed analysis of selected measures with investment-grade savings and financial calculations and deliverables. The Level 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 Level 1 and Level 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 2019. 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.

Challenges/Changes for 2020

SDG&E does not have a large agricultural sector. Agricultural customers continue to be challenged and focused on coping with the State's continuing water shortage. COVID-19 also poses a new challenge for this sector. SDG&E will continue to work with other stakeholders to

develop more effective programs for this customer sector.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown.

2019 Program Accomplishments

The agricultural sector continues to be a challenge for SDG&E due to the limited customers in this segment. Historically this program has had low participation and has continued to diminish over the years. In 2019, there were no agricultural customers that requested audits.

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

Implemented Strategies

In 2019, SDG&E made additional enhancements to the project tracking and payment system known as Energy Efficiency Collaboration Platform (EECP) by adding new functionality to better track cancelled projects, as well as added configuration to allow for automated communication with the customer.

SDG&E also added regular training sessions for customers and trade professionals to reinforce and improve the knowledge of program participants on the various details and requirements of the program.

Challenges/Changes for 2020

Most agricultural installations in SDG&E service territory have traditionally been serviced through its deemed program 3239 SW-AG-Deemed Incentives. SDG&E will increase outreach for this program with an emphasis on improvements to the program, including simplified participation and streamlined custom review process. SDG&E will improve EECP to identify additional process improvements, such as automated agreements and enhanced quality control features. SDG&E will continue to work with other stakeholders to develop more effective programs for this customer sector.

2019 Program Accomplishments

The program received more than double the amount of new applications than processed in the prior year. As a result of customer feedback, SDG&E worked closely with the CPUC's Custom Projects Review (CPR) team to implement improved processes throughout the year, including working ensuring projects placed on the Custom Measure & Project Archive (CMPA) were complete and ready for review by developing and enhancing the Ready for Review Checklist. Additionally, SDG&E redesigned the core landing page on the web site for the custom program and received positive feedback. SDG&E also collaborated with Commission Staff on a more efficient review process. By doing so, SDG&E reduced their response time to CPR requests to help streamline this process and ensure a quicker response for our customers. Finally, SDG&E redesigned the core landing page on the web site for the custom program and received positive feedback.

D. 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 2019, 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. SDGE implemented various marketing strategies that highlighted expiring lighting measures. For example, an email campaign was executed for exterior lighting fixtures, which expired at the end of July. Marketing campaigns, such as this, resulted in several new projects and helped increase participation within the program. All other non-lighting products continued to be offered in Energy Efficiency Business Rebates Program, which utilizes a downstream channel. In order to increase participation within the Energy Efficiency Business Rebates Program, SDG&E increased rebates on non-lighting measures as a limited-time offer. The limited-time offer marketing strategy was implemented to create a sense of urgency so that customers would take full advantage of the increased rebate amounts.

Monthly trainings for trade professionals continued in 2019. 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.

Challenges/Changes for 2020

A challenge for this program is the limited lighting offerings. This is due to increased efficiency of the building codes for lighting. To address this challenge, SDG&E plans to add additional non-lighting measures to the Energy Efficiency Business Rebates Program, such as pipe and tank insulation. In addition to these new measures, with adding new measures, SDG&E will implement a targeted marketing campaigns, highlighting cost-effective energy efficiency and water savings measures.

2019 Program Accomplishments

In the Instant Lighting Rebates Program, SDG&E brought on approximately 9 new distributors to increase the number of rebated products in the market. Additionally, SDG&E

added parking garage fixtures, which allowed for a more diverse measure mix within the program's portfolio. In the Energy Efficiency Business Rebates Program, SDG&E added the following measures: greenhouse heat curtains, sprinkler to drip systems, and 30, 40, and 50-gallon storage water heaters. The addition of these measures created a more diverse offering for SDG&E's customers.

STATEWIDE LIGHTING PROGRAMS

A. 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 CLTEESP. 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

As LED proliferation has significantly increased, the subprogram funds for transforming the market were shifted to Primary Lighting. See program 3245 for details

Challenges/Changes for 2020

The program will not be offered in 2020. SDG&E proposed to close this program in its 2020 ABAL and was approved in December 2019.

2019 Program Accomplishments

As a result of the CPUC lighting disposition, there were no new lighting strategic initiatives.

B. SDGE3241 SW-Lighting-Lighting Innovation – ETPC Measure Development

Program Description

The Lighting Innovation Subprogram evaluates products or program approaches new to the market, which have potential to eventually be offered through the Primary Lighting and 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. Showcase and field placement projects are conducted when applicable.

SDG&E did not request a budget for the program for 2020.

Challenges/Changes for 2020

SDG&E proposed to close this program in the 2020 ABAL and was approved December 2019**.**

2019 Program Accomplishments

In anticipation of the Lighting Innovation efforts coming to an end, SDG&E did not request a budget to implement any new initiatives. There was no program activity in 2019.

C. SDGE3245 SW-Lighting-Primary Lighting

Program Description

The Primary Lighting Program was designed to offer upstream rebates to participating manufacturers to reduce the retail cost of energy efficient lighting products. It was designed to introduce new premium efficiency lighting products into the market in order 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

SDG&E worked with six different manufacturers to purchase residential lighting products and arrange for shipment to hard to reach locations, such as small independent grocery stores, drug stores, low income markets and discount shops alongside typical

"big box" stores. The goal of this effort was to expand the reach of efficient lighting into new avenues and reach customers that may not typically purchase efficient equipment. However, as noted above, SDG&E is unable to finalize savings resulting from its 2019 Upstream Lighting Program and is in the process of completing its investigation into the operation of the program. SDG&E will formally report the results of its investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report

Challenges/Changes for 2020

SDG&E proposed to close this program in the 2020 ABAL, which was approved in December of 2019. Therefore, there will be no activity in 2020.

2019 Program

To investigate whether program policies were followed and sales by hard-to-reach retailers could be validated, SDG&E conducted a Rapid Feedback Upstream Lighting Assessment with Evergreen Economics. The follow-up research conducted 113 on-site verification visits to attempt to validate program activity from 2019. Although the study was not finalized, the initial results indicated a discrepancy between claimed program delivery data and actual delivery in the hard-to-reach retail locations.

LOCAL INSTITUTIONAL PARTNERSHIPS

A. 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 energy and peak demand savings and establishes a permanent framework for sustainable, long-term comprehensive energy management programs at CDCR institutions served by California's four IOUs.

Implemented Strategies

In 2019 CDCR continued implementing retrofit projects and performing Investment Grade Audits. The IOUs and the Program Administration Manager (PAM) partnered to support development of new projects, ensuring that they reached maximum efficiency and incentive potential. In 2019, CDCR continued to use over half of the total energy consumed by all California state agencies, though the budget for implementing such energy efficiency projects has decreased in the past two years. Through the CDCR-IOU energy efficiency partnership program, efficiency projects are identified and implemented through the IOU Core and On Bill Financing Programs. On Bill Financing (OBF) remains the primary source of funding. In select instances, OBF is supplemented by either Special Repairs Project funding or Department of General Service's GS $mart program.

Challenges/Changes for 2020

Overall, participation in OBF and incentive programs is an ongoing challenge because of the longer project timelines and approval processes common in the public sector, especially for agencies in the State of California. The partnership with the IOUs will continue to provide guidance and trainings for CDCR and their energy service companies (ESCOs) to help ensure financing options are identified early in the development cycle so each project capitalizes on the unique and evolving mix of opportunities.

2019 Program Accomplishments

The program continued the effort to ensure new construction projects, natural gas-saving, and water conservation projects were clearly tracked and proactively managed. The Partnership provided special training to the current ESCO pool to review changes to IOU financing options. Executive team meetings occur quarterly and involve senior leadership at the CA Department of Corrections, sustainability managers from sites across the state, and IOU management to identify new opportunities, manage project pipelines, and proactively address any challenges the program may have faced.

Though CDCR has only one facility in SDG&E territory, savings were achieved in 2019 at Richard J. Donovan Correctional Facility (RJD) through their Health Care Facility Improvement Program (HCFIP). A brand-new Central Health Services Savings by Design project, consisting of six new buildings, completed construction in 2019. This facility has multiple project opportunities across its campus and the partnership is working to identify additional opportunities for 2020.

B. SDGE3267 LInstP-California Community College Partnership

Program Description

The California Community Colleges (CCC) Partnership is a unique, statewide program with a goal to achieve immediate and long-term energy savings and peak demand reduction within California's higher education system. This program is partially funded by funds made available through Proposition 39. The program was 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 that includes an Executive Team and Management Team comprised of senior leadership at the CCC Chancellor's office, sustainability managers from CCC campuses, and IOU management on an ongoing basis.

The teams meets quarterly to discuss program management, overall program status and policy issues. The CCC 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 CCC Partnership participated in quarterly Campus Forums in both Northern and Southern California, serving as a venue for districts to share successes and strategies to address the common challenges faced for facilities management and energy efficiency. The CCC 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 Management Team participated in several CCC conferences such as the California Higher Education Sustainability Conference (CHESC), Community College Facilities Coalition conference (CCFC), and the Association of College Business Officers (ACBO) conference to reach a diverse audience of facilities, business officers, administration, and board members. In addition, the team participated in Northern and Southern California regional energy meetings organized by the Community Colleges (NorCal Summit, Southern California Facilities Officers) targeted towards campus facilities and energy managers. Finally, Outreach Team 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.

In addition to the quarterly Management Team and Executive Team meetings to discuss overall program status, initiatives and policy issues, joint Executive/Management Team meetings were also held in June and December. The team actively tracked project savings data in a database tracking tool and continued to create regular reports to show overall status of the program and forecasts relative to goals. These reports were reviewed by both Executive and Management Team members and IOU management on an ongoing basis.

Challenges/Changes for 2020

Proposition 39 funding has ended, which is creating a significant slowdown statewide for the identification of new energy efficiency projects in the upcoming year. All efforts for CCC Districts are focused on the complete utilization of any available funding.

2019 Program Accomplishments

The CCC Partnership provided extensive outreach and technical support to the districts within the CCC system in support of their efforts to identify, develop, and implement projects funded through Proposition 39, the California Clean Energy Jobs Act of 2012. The IOUs worked closely with the Chancellor's Office to develop resources and infrastructure into the CCC and successfully implement hundreds of Prop 39 projects across the State. These projects were implemented using the final year of funding provided by the state Legislature. Typical project types implemented were LED lighting, HVAC, controls, and Retro-commissioning (RCx).

The use of Proposition 39 funding continued to be very successful with over 932 energy projects funded over its five-year life. These projects will result in significant annual energy savings, saving the CCCs $19.9 million per year in reduced energy costs system-wide. All 72 Community College districts throughout California actively participated in the program and have benefited, including all five community college districts in the SDG&E territory.

Over $184 million in Proposition 39 funding was allocated to districts over the 5-year program life and all projects were completed and closed-out in 2019. However, there was roughly $6 million in "project savings" due to cost underruns at 21 districts as the final projects were closed-out. The CCC Chancellors Office will be extending the deadline for campuses to request Proposition 39 funding to allow new projects and energy savings opportunities into 2020.

C. 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. The Partnership consists of three main project types: retrofit, commissioning, and new construction.

Implemented Strategies

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

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 SB350, AB802 and AB1150 to demonstrate measured savings against existing conditions, pay for performance, and comprehensive whole-building approach to building efficiency.

Challenges/Changes for 2020

In 2019, the Partnership experienced budget changes which resulted in the discontinuation of the Partnership Training and Education Program. Due to increasing focus on cost effectiveness, code baselines, industry standard practice, campuses are challenged to identify projects with energy savings. Additionally, the challenge of delayed and extended timelines in transitioning to the third-party implementer model while decreasing incentives, eligibility, and budgets over multiple years has reduced program momentum.

The Partnership determined several programmatic changes which will take effect in the 2020 cycle. Beginning in 2020, the Savings by Design Program will transition to a statewide third-party program and its incentives will no longer be provided through the Partnership.

2019 Program Accomplishments

There was a significant volume of energy efficiency projects delivered in 2019 and underway for future years across the statewide partnership resulting in completion of 42 Retrofit, MBCx (monitoring-based commissioning) and New Construction projects at 17 different UC and CSU campuses (inclusive of UC Med Centers). With the assistance and input from of the University of California, the IOUs also continued implementation and development of various program offerings and High Opportunity Project or Programs (HOPPs), including a whole building program consistent with SB350, AB802 and AB1150 to demonstrate measured savings against existing conditions, pay for performance, and comprehensive whole-building approach to building efficiency.

From a continuous improvement perspective, the Program Administrator Manager implemented a new, more cost effective and efficient project tracking database for the Partnership to replace the existing database. An effort was also undertaken to clean up the Partnership's existing legacy data, and conform it around measure types and sub-measure types. This allows for more effective use of the Partnership dashboard and historical dataset.

D. 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 energy and peak 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

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), Department of Parks and Recreation (DPR), the Judicial Council of California (JCC), and the Department of Food and Agriculture (DFA).

Challenges/Changes for 2020

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), Department of Parks and Recreation (DPR), the Judicial Council of California (JCC), and the Department of Food and Agriculture (DFA).

2019 Program Accomplishments

In 2019, the IOUs and Department of General Services (DGS) concluded a working group to address Savings by Design (SBD) participation barriers for DGS buildings. Working group efforts led to the development of a flow chart to better understand the DGS procurement process. The group finalized DGS contract language, reviewed established incentive structures and defined alternative payment solutions to better align with DGS systems. The Partnership continues to track an SBD project currently in progress to use as a test case for implementing solutions developed by the working group.

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, which addresses GHG emissions from state-owned buildings, among other things. 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.

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 SDG&E resulting in five projects with significant kWh, therms, and incentives. Based on continued agency outreach, The State/IOU Partnership anticipates additional opportunities for DGS projects in 2020.

In response to Public Safety Power Shutoffs in 2019, the Partnership coordinated on how to build resiliency for sites in the most critical zones, including ZNE support, distributed generation, and storage. Outreach to these agencies continued to yield significant energy savings and continues to create a robust pipeline of future projects.

E. 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 its Sustainability Strategic Plan and CAP. Through 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

USD's Office of Sustainability held physical outreach efforts that reached approximately 6,000 people through an estimated 24 events and 47 presentations addressing sustainability, energy efficiency, and/or climate change. The Office was also involved with five academic classes, assisting students with sustainability-related research projects. The Office's digital outreach was boosted via an increased presence on social media platforms and consistent expansion of its website regarding current efficiency projects, sustainability-related resources, and information about relevant events and news. These efforts resulted in unique website page views that increased to an estimated 34% and increased the user base by an estimated 59% in the past year.

The 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 89 offices have now been Green Office certified, with 13 certifications awarded in the past The *Eco-Resident Program*, established in 2018 had 38 new participants resulting in behavior change within residence halls to reduce their energy and water consumption. In August, the Office launched the *Sustainability Welcome Program* with 35 new employees to increase efforts of sustainability education. This program was well received, with 100% survey respondents supporting continuation of the program.

USD also continued its *Vampire Energy Slayers Program* with its educational campaign raising awareness of "vampire energy" resulting in outreach to approximately 499 employees. Student Assistants targeted 14 campus buildings in 2019 to locate and "slay" the vampire energy found in electronics and appliances used infrequently throughout the day. In 2019, 616 instances of vampire energy were identified with tips on how to address unnecessary loads.

Challenges/Changes for 2020

USD is focused on meeting the savings goals established by the partnership in addition to meeting the needs of the campus in support of the Climate Action Plan. USD's focus in 2020 is to fund projects that meet the needs of the University's Climate Action Plan and Energy Master Plan because the partnership funds are limited to only energy efficiency purposes. A concentrated effort will be made early in 2020 to determine other feasible efforts around marketing, education and outreach within the campus.

2019 Program Accomplishments

USD decreased its electrical consumption by approximately 2.66% and its natural gas consumption approximately 2.82% in FY2019, primarily through building scheduling and controls oversight conducted by USD's Sustainability staff. Several long-term projects completed in CY2019, including the North Road Chilled Water Loop upgrade and the new Mission and Ministry building.

To support efforts for peak demand reduction while meeting campus load needs, USD continued to participate in the Automated Demand Response program via the Ecobee thermostats installed in 2017 in addition to installation of a 500 kWh battery in December 2019. Through the partnership in 2019, USD was able to upgrade the campus Energy Management System to the

Siemens Design building automation system, a seamless platform to operate USD's campus buildings more efficiently. In December, the university selected a firm to assist in developing a 15-year campus energy master plan rooted in energy efficiency and reducing greenhouse gas emissions to meet the university's 2035 carbon neutrality goal.

Overall, these programs and practices have led to public recognition of USD as a leader in campus sustainability. The university was ranked 24th in Princeton Review's annual *Guide to Green Colleges 2019*, and a research poster detailing the Vampire Energy Slayers program was presented by a team from the Sustainability Office at the 2019 Association for the Advancement of Sustainability in Higher Education Conference.

F. 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. Key MOU items include:

- 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
- Hold monthly meetings with SDCWA to determine additional activities to support the partnership

Implemented Strategies

Over the years, numerous stakeholders have explored avenues to deliver joint energy and water programs. To address this gap, a consultant was hired to develop a Strategic Water Energy

Partnership Framework. The framework provided a strategy for accelerating the 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, SDG&E and SDCWA developed and implemented joint programs that save both water and energy and provide water and energy rebates. In 2019, this planning and implementation process focused on the following four areas:

1. **Commercial Kitchen (Small/Med. Businesses) Direct- Installation Instant Rebate WEN Program**

Program Description

This initiative targeted small and medium sized customers with commercial kitchens. The offer provided additional funding from SDCWA to reduce customer co-pays was for the installation of steam cookers, ice machines, aerators, and pre-rinse spray valves through SDG&E's Business Energy Solutions program. By combining the water and energy incentives, customers would benefit from a reduced co-pay at the time of installation for the water and energy saving measures. Educational materials provided to customers included information on water-use efficiency.

2019 Program Accomplishments

- Executed contract in September
- Developed new collateral material (flyers, postcards, email content, social media) to market offer
- Launched marketing activities in December.

2. **Multifamily Direct- Installation Instant Rebate WEN Program**

Program Description

This initiative targeted property owners/managers through the Multifamily Energy Efficiency Rebate program. The offer provided additional funding from SDCWA for the installation of low-flow showerheads and aerators.

2019 Program Accomplishments

- The contract with SDCWA was executed in November.

3. Mobile Home Direct- Installation Instant Rebate WEN Program

Program Description

This initiative targeted customers who participated in the Mobile Home Program. The offer provided additional funding from SDCWA for the installation of low-flow showerheads and aerators.

2019 Program Accomplishments

The contract with SDCWA was executed in November.

4. Residential – an offering within the Low-Income Program.

This update will be provided in the 2019 Low-Income Annual Report.

Challenges/Changes for 2020

The partnership will continue to evaluate water and energy saving measures to add to SDG&E's current programs. The measures being evaluated for water funding are boiler controls, water heaters (tankless and instantaneous), and pool covers.

LOCAL GOVERNMENT PARTNERSHIPS:

A. 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 education and outreach across 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 as part of the South Bay Energy Action Collaborative (SoBEAC).

Implemented Strategies

The Chula Vista Partnership continued to address the key components of their strategy around municipal facility improvements, energy codes and standards, and improving community and municipal energy efficiency savings that meet and exceed designated objectives in creating new energy efficiency opportunities in the community.

City staff continued to push forward in the area of building policies that would address existing Single-Family Upgrades, Existing Multifamily Energy Benchmarking and Commercial Energy Benchmarking. Staff also initiated the implementation of comprehensive audits for all eligible municipal facilities whose results will be foundational in the establishment of a Zero Net Energy Roadmap for Chula Vista. Staff engaged the community through various outreach efforts including the Home Upgrade - Carbon Downgrade Program, Energy Station interactive student learning and display at the South Bay Library, the launch of the Climate Action Challenge, Free Resource & Energy Business Evaluation (FREBE) Business Program, CLEAN Business Program and Empower Hour for students and the community. In coordination with SDG&E and the San Diego Association of Governments, Chula Vista continued to participate in the "South Bay Energy Action Collaborative" (SoBEAC) during 2019 and continued its support in assisting National City's mandatory energy evaluations program.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments

Chula Vista held 5 trainings during 2019 and assisted development staff with 187 one-on-one meetings. The designated Code Coach, a program that provides Title 24 code training, also provided eight in-field secondary inspections. The City continues to work with SDG&E on their "to-code" compliance incentive pilot program, which aims to promote building permit applications for residential HVAC retrofit projects in the community.

In 2019 Chula Vista launched the Climate Action Challenge, which now has more than 110 Chula Vista households participating. Throughout the year, three Climate Change Working Group meetings were held and two Public Forums. The Sustainability Group worked on the development of the Existing Building Residential Energy Efficiency Ordinance and presented it to the Sustainability Commission and continued working on the Benchmarking Ordinance. The group also participated in the International Energy Conservation Code (IECC) Code Elections to promote energy efficient building codes.

The FREBE Team engages Chula Vista businesses to participate in on-site energy and water evaluations, and refer to energy efficiency programs. In 2019, the team was able to reach out to 912 businesses, 548 of which received their FREBE report to help them save money and contribute to the City's Climate Action Plan goals. Businesses learned about SDG&E programs and 143 of them were referred to Business Energy Solutions Program for energy efficiency improvements.

The Empower Hour is an after-school program offered by the Recreation Department to engage and educate children on energy and energy efficiency topics. Throughout 2019, Empower Hour delivered 550 activities and reached 12,000 children.

Program staff also participated in 38 outreach events including 19 "Movie Nights in the Park" to interact with the community, increase program participation and promote Chula Vista sustainability work and SDG&E's programs.

As part of the San Diego Regional Energy Partnership (SDREP) between the LGPs and SDG&E, the City of Chula Vista led the San Diego Green Business Council (SDGBC) effort which provided various educational seminars, workshops, trainings, and tours for 348 attendees at events put on by SDGBC. One-hundred fifty-seven of the attendees were local government staff from the region. Trainings ranged from introductory seminars like LEED to more advanced topics on Zero Net Energy and building decarbonization.

Chula Vista's Energy Station was honored with a ribbon-cutting ceremony in early 2019 to recognize the collaborative efforts of SDG&E, the International Brotherhood of Electrical Workers and the City of Chula Vista that created this hands-on learning experience for elementary school students to view science, technology, engineering, arts and mathematics (STEAM) careers while building understanding of energy needs, demands and clean energy opportunities.

B. 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

In 2019 the City made significant progress on the Municipal Energy Strategy (MES) and Implementation Plan. The MES is a roadmap to the 2020 and 2035 municipal GHG reduction goals set in the CAP and focuses on improving the energy efficiency of municipal buildings, implementing policies, and expanding ongoing efforts to deploy onsite renewables to achieve zero net energy for City buildings.

The plan details the City of San Diego's progress toward municipal energy reduction goals, evaluates the performance of existing infrastructure, summarizes ongoing efforts, and provides an estimate of investment required to meet the municipal reduction goals.

The City also continued to implement its local benchmarking ordinance requiring commercial buildings over 50,000 square feet and multifamily and mixed-use buildings greater than 50,000 square feet and with 17 or more residential accounts to submit energy data to the City by June 1 annually. Support for owners to comply includes a new Buildings Empowered website providing access to resources, workshops, and a data visualization map.

As part of the San Diego Regional Energy Partnership (SDREP), the City of San Diego led the Home Energy Score (HES) effort to find and qualify assessors who can provide scores to homes in the San Diego region that lead to energy efficiency improvements including attic insulation, domestic water heater replacement, and duct sealing.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments

In 2019, the City completed energy audits at 42 City facilities and benchmarked all City facilities. This work culminated in a list of 880 energy opportunities across 215 facilities as part of its MES and Implementation Plan. The City completed the retrofit of approximately 4,700 streetlights to LEDs along with installation of approximately 3,000 smart sensors. LGP funds supported GIS tracking of the installation process.

The City welcomed 33 new members into the Green Business Network. Eighteen new members received site visits and/or energy assessments, and 6 businesses implemented Business Energy Solutions retrofits.

The City provided LEED training for City staff including two trainings and one workshop, with a total of 106 attendees. City staff attended several conferences and trainings that increased our collective understanding of energy efficiency and sustainability including the Greenbuild Expo, SEEC Forum, and trainings related to climate equity and the 2019 Building

Energy Efficiency Standards.

A significant accomplishment was implementing the City's Building Energy Benchmarking ordinance that the City Council passed in February 2019. As stated above, the ordinance requires large buildings to submit their energy usage to enable more actions to reduce energy use. The City's marketing and technical support efforts have resulted in a 30% compliance rate on its first reporting deadline of June 1, 2019.

In 2019, San Diego established the nation's first-of-its-kind Climate Equity Index (CEI). The CEI assessed 297 census tracts that intersect with the City and developed standardized indicators to compute a CEI score from 0 – 100 for each census tract. Working with community-based organizations, the City defined climate equity as efforts addressing historical inequities suffered by people of color, allowing everyone to fairly share the same benefits and burdens from climate solutions and attain full and equal access to opportunities regardless of one's background and identity. The Index measures the level of access to opportunity residents have within a census tract, and assess the degree of potential impact from climate change to these areas.

City staff also focused on support for the completion of the 2019 CAP Annual Report, which showed a citywide greenhouse gas emissions reduction of 24 percent over the past decade by residents, businesses and government, far surpassing the official 2020 goal of 15 percent.

C. 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

Staff continued to implement programs and strategies outlined in the County's Climate Action Plan (CAP) to reduce greenhouse gas emissions (GHG) in the unincorporated area and in County operations. The first CAP Annual Monitoring Report was released in August 2019. The report gives a status update on all 26 measures in the CAP and shows that the County is on track towards meeting its 2020 emissions reductions target. The report is available in a printed format that has been broadly distributed through County libraries and is also available online. In addition to this report, staff developed an updated CAP Website which serves as the primary platform for communicating with County stakeholders and directing users to new information, events, and projects related to CAP implementation and monitoring.

Staff continued to use Department of Parks and Recreation's (DPR) unique positioning to outreach to residents and increase awareness of the County's Energy Efficiency efforts and SDG&E programs. DPR successfully participated in many signature events drawing high profile attention in the community including: the Bi-annual Warrior Hike, the Waterfront Park 5 Year anniversary, Biocom Science, Technology, Engineering and Math (STEM) Fair, Earth Day Events, and successfully engaged all ten of DPR's Regional Managers, as well as the department's Deputy Director and acting director in the planning of strategic outreach efforts.

Education efforts resulted in the publication of "The Scene- A green teen's guide to energy and recreation," and the establishment of new STEM outreach partnerships in two disadvantaged communities (Chula Vista, National City). Additionally, education program recycling efforts resulted in 714 plastic bottles, 359 aluminum cans and 11 glass bottles. Outreach efforts included the sponsorship of the County's Movies In the Park series on behalf of SDG&E, with SDG&E and Energy Saving Adventures program content airing at 150 events countywide to an estimated 34,138 residents.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments

County staff provided educational programming in DPR facilities including 496 hours of programming to a total of 5,583 participants. County staff also attended a total of 74 events with an estimated attendance of 50,000 residents and received a total of 266 Energy Efficiency referrals. Outreach efforts included distribution of partner content through the following media avenues: five digital newsletters to County employees and 12 e-mail blasts to average 21,545 readers/month and the creation of three joint collateral pieces. Community outreach efforts to inform businesses about green practices and SDG&E resources included corporate resource fairs (i.e. health/benefits) in new industries like pharmaceuticals and private healthcare.

Feasibility studies completed this year include: San Diego Central Jail retrocommissioning investigation; Phase 1 East Mesa Detention Campus retrocommissioning investigation; plan for creating a Continuous Commissioning Program (also known as Monitoring-Based Commissioning); Investment Grade Audits at four facilities; solicitation for four Zero Net Energy facilities.

Projects completed this year: demand response participation at the County Operations Campus; retrocommissioning measures at San Diego Central Jail; lighting retrofits at eight facilities, including the Edgemoor Skilled Nursing Facility for energy savings of approximately 250,000 kWh; construction completion at one ZNE new facility; monitoring-based commissioning at a total of 19 facilities.

D. 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

The Port completed multiple interior and exterior LED lighting retrofit projects at the following facilities: Tenth Avenue Marine Terminal, Harbor Police Shelter Island, General Services, Broadway Pavilion, and National Distribution Center. The Port utilized the Partnership to pay for design services and leveraged Port funding to pay for the construction and installation of the lights. The Port also began the design for a lighting retrofit project at Spanish Landing park to convert approximately 60 lights to LEDs during calendar year 2020.

To celebrate Green Port Month and other Port staff engagement activities, the Port held an employee engagement campaign called Energy Goals between September 2018 through February 2019. This campaign educated employees on workplace energy efficiency and conservation strategies and engaged 37% of Port employees. Over 900 energy savings actions were taken, including turning off computer monitors, using outlet timers for appliances, and properly setting thermostats.

Through Partnership funding, the Port was able to increase employee knowledge and education by sending various Port staff to multiple trainings and conferences including the Behavior Energy and Climate Conference, Statewide Energy Efficiency Conference, Greenbuild, Smart Cities Conference, and the Climate Leadership Conference. Multiple Port staff also received Leadership in Energy and Environmental Design (LEED) Green Associate credentials. The Port also hosted on-site trainings for Port staff that highlighted updates to the Building Energy Efficiency Standards (Title 24) and LEED trainings.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments

The Port's Green Business Network hosted three Network events with over 100 attendees. Events included a tour of the Helix Water District featuring energy efficiency and sustainability measures and an annual Sustainable Achievement Award. Businesses were

provided information on SDG&E energy efficiency rebates and were educated on energy efficiency implementation strategies, including lighting retrofits and Heating, Ventilation and Air Conditioning System (HVAC) improvements.

As part of the San Diego Regional Energy Partnership (SDREP), the Port of San Diego led the San Diego Regional Green Business Network and the Benchmarking Coach. These efforts recruited 62 new member businesses, growing total membership to 294 businesses in 2019. The group hosted four events including facility tours of the San Diego Food Bank, Helix Water District Treatment Plant and Petco Park, and conducts one-on-one benchmarking coach services resulting in 62 interactions with businesses, and participation in education events such as Benchmarking for Multifamily, and Benchmarking for Restaurants.

The Port also launched the *Greenwork Makes the Dreamwork* marketing campaign showcasing sustainability initiatives at businesses through spotlight videos, online case studies, and ongoing social media engagement. The Port also held a Green Employee Engagement Campaign (GEEC) to encourage energy efficiency education and engagement in tenant workplaces. Using gamification strategies, each participating employer was presented with lessons on energy efficiency and were encouraged to complete actions at work and at home resulting in realized energy savings. The businesses that participated in GEEC spanned a wide range of industries, including hospitality, tourist attractions and industrial manufacturing. Nearly 200 participants across 5 businesses took 1,900 energy savings actions.

The Port conducted its 2018 greenhouse gas (GHG) inventory which outlines the Port's Scope 1 and Scope 2 GHG emissions from electricity, natural gas and fleet vehicles and equipment. This inventory provides the Port with more granular data to see the best business units to implement energy efficiency and conservation methods. The GHG inventory report showcases that GHG emissions have decreased 32% since 2008. The Port is in the process of determining pathways to align the CAP with State-wide goals to reduce GHG emissions 40% by 2030 and 80% by 2050 through a CAP study. The CAP study will prepare a forecast of GHG emissions based on current and projected growth, adjust emissions due to recent and expected legislation, and identify GHG reduction strategies to meet State goals. The study will be completed in 2020 and will guide the Port's reduction of GHG emissions, serving as a foundation for a future CAP Update post-2020.

The Port initiated a comprehensive study to identify and provide recommendations to implement a Building Automation System (BAS) and advanced HVAC controls to manage and control mechanical and electrical services of the Port Administration building, with the potential to scale up to include the Port's entire portfolio of buildings. The study provided an implementation strategy and associated costs, identified energy savings opportunities, and enhanced building performance controls. Recommendations are currently being evaluated for future implementation by the Port.

E. 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 governments of the San Diego Region. The SANDAG LGP functions to deliver energy efficiency services, climate action planning services, and related assistance to the 16 member cities that do not have direct LGP agreements with SDG&E. 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

In 2019, SANDAG made progress to enhance energy practices, including having 28 SANDAG employees attend a sustainability tour of the San Diego International Airport to learn about the Airport's green practices, three SANDAG employees attend the SEEC Forum in Long Beach, one SANDAG employee present at the California Climate Action Planning Conference, and two SANDAG employees attend the California American Planning Association (APA) Conference. SANDAG staff continued work on the Green Operations Manual update, to be completed in 2020. SANDAG continued data collection to prepare a regional greenhouse gas (GHG) emissions inventory to inform the Regional Plan update.

SANDAG also supported member agencies to enhance climate action planning efforts, including preparation of the City of El Cajon Climate Action Plan (CAP), completion of the City of Oceanside CAP Benefit-Cost Analysis, and support for the City of Imperial Beach's CAP

efforts. SANDAG completed the City of Vista Energy Roadmap Update and continues to support Roadmap implementation. SANDAG also completed energy engineering technical support for the Cities of San Marcos and Imperial Beach. SANDAG also supported other cities at various stages in the climate planning process, including: Lemon Grove, Escondido, and Del Mar. Additionally, SANDAG completed updated GHG inventories and CAP monitoring reports for all Roadmap cities and began development of a climate action data portal to house this information online.

Quarterly meetings were held for the four subregional Energy Collaboratives convened by SANDAG to facilitate information-sharing and best practices coordination among SANDAG, SDG&E, and local agency staff from all Roadmap cities.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments

In 2019, the SANDAG Roadmap Program successfully provided support to all 16 Roadmap Cities. Energy engineering support was provided to nine cities and the SANDAG Toll Operations Center. Direct climate action planning support was provided to eight cities, and the GHG inventories and CAP monitoring reports were completed for almost all Roadmap Cities.

SANDAG received several awards for work completed under the Roadmap Program, including: The Environmental Resource Document Merit Award from the California Chapter of Association of Environmental Professionals, the SDG&E Energy Showcase Award, the Environmental Planning Achievement Award from the San Diego Chapter of the APA, and the Innovation in Green Community Planning Award from the California Chapter of APA.

As part of the San Diego Regional Energy Partnership (SDREP) between the LGPs and SDG&E and utilizing a portion of the LGP budget, SANDAG led the San Diego Regional Climate Collaborative (SDRCC) effort. Working closely with the Energy Policy Initiatives Center (EPIC), SDG&E and SANDAG, the SDRCC developed an online, interactive resource using the ESRI Story Map tool, to connect energy efficiency to broader climate leadership in the

region and highlight the actions cities are taking in their Climate Action Plans. SDRCC organized three Regional Network meetings during 2019 (January 30, May 22, October 2). The meetings had a total of 120 attendees and included representatives from nine cities in the region and from the County of San Diego.

F. SDGE3277 LGP – SEEC Partnership

Program Description

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

Implemented Strategies

In 2019 SEEC continued to focus on educating, supporting and implementing activities by California cities and counties to reduce greenhouse gas emissions and save energy. The collaborative employed a variety of strategies to catalyze local climate and energy action, including education and tools for climate action planning, producing the weekly Update Newsletter, venues for peer-to-peer networking and information sharing, technical assistance to implement, track and assess the progress of cities and counties, and recognize the progress of cities and counties' efforts in energy efficiency and sustainability with the annual Beacon award.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments:

The Best Practice Coordinator managed the weekly Update Newsletter, which is a key resource for local governments and other stakeholders to stay up-to-date on the latest energy efficiency news, resources, job opportunities and events. The Coordinator was able to increase

the subscription base by over 150% in 2019 (from 900 to over 2,400 subscribers). The Coordinator also supported the 10th Annual SEEC Forum, including serving as an active member of the Forum Advisory Committee, leading a "Lighting Round Session Trailers" webinar, and organizing and moderating multiple plenary sessions, including State Leaders Opening Plenary and Future Decarbonization of California's Energy (SCE/SCG) session.

LGC organized the 10th Annual SEEC Forum in Long Beach, CA, with over 330 local and state government, nonprofit and private sector leadership in attendance. The Forum focused on the need to accelerate the pace of investment in integrated energy efficiency strategies and deep engagement with underserved and disadvantaged communities (DAC) to advance decarbonization. Featuring 16 engaging sessions, four expert plenaries and mentorship opportunities, the Forum enabled energy leaders and practitioners to connect with one another to learn about innovative projects and strategies, share best practices, and troubleshoot challenges.

The Beacon Program gained nine additional cities and one additional county, several of which include DACs. ILG assisted 153 participants with data requests and documentation of their sustainability achievements, including 15 Electricity Savings Spotlight Awards and five Natural Gas Savings Spotlight Awards. A total of 36 participating agencies were recognized with awards this year, including 11 cities and one county receiving full Beacon Awards.

ICLEI is now up to 344 SEEC ClearPath accounts and added a new Forestry calculator to the ClearPath Tool. The ClearPath tool is an advanced web application for energy and emissions management. In addition, ICLEI presented a six-session series through the Zero Net Energy Cohort over a 3-month period.

SDG&E through this statewide partnership funded multiple communication channels to provide local governments access to the latest information and resource for energy efficiency, climate planning and related topics. In 2019, LGC produced CURRENTS, a quarterly newsletter distributed to 2,100 local elected officials and staff with current information on energy issues affecting California's local governments. In addition, LGC conducted two webinars of the highest rated breakout sessions from this year's Forum. The webinars focused on utilizing local energy ordinances to reduce GHG emissions and providing an overview of "total resource cost" and its importance in successfully leveraging third party programs. LGC also maintained a list of prominent financing and funding sources for energy efficiency on the SEEC webpage.

G. 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), greenhouse (GHG) reduction plans and other sustainable projects.

Implemented Strategies

Program staff regularly coordinated with SANDAG to strengthen the Emerging Cities Program and to engage new participants. ECP participants focused on implementing the EE portions of their Climate Action Plans and developing tools that will help with outreach to their jurisdictions or educating the City staffers. Contributed to Energy Action Collaboratives with SANDAG: North Coast Energy Action Collaborative (NCEAC), which consists of Del Mar, Solana Beach, Encinitas, Carlsbad, and Oceanside. South Bay Energy Action Collaborative (SoBEAC), which consists of Chula Vista, Imperial Beach, National City, and Coronado. Inland Cities Collaborative (InC), which consists of the cities of Poway, San Marcos, Vista, and Escondido. East County Energy Collaborative (ECo), which consists of La Mesa, Santee, El Cajon, and Lemon Grove.

Additionally, ECP continued the offering of a scholarship program for attending the 2019 Statewide Energy Efficiency Collaborative (SEEC) Forum to encourage further participation from City staff.

Challenges/Changes for 2020

The Local Government Partnership contracts are set to end in 2020. SDG&E will be soliciting new local government programs under the third party implementer model in the fourth quarter of 2020.

2019 Program Accomplishments

Programmatic successes included developing energy efficiency related Ordinances for the City of Encinitas, which included the future outreach to residents and businesses to help provide resources on energy efficiency related items. Additionally, a vendor was contracted to complete energy efficiency outreach and audits for hard to reach citizens for the City of Del Mar.

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, as well as outreach to the public

The City of La Mesa, in partnership with SDG&E via the ECP and the Helix Water Authority, completed the do-it-yourself energy and water efficiency kit. This kit provides step by step instructions on how to conduct an at home energy and water audit, including tools to measure wattage and water flow, and can be checked out from multiple locations around the City of La Mesa. The kit also includes small giveaways like light bulbs and weather stripping that can help participants better understand energy saving technology.

Additionally, vendors contracted through the ECP concluded public education efforts and a final report reflecting the results of a survey that was developed 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 2019 included the completion of the Clean Energy Plan program for the Tribal Nations of SDG&E and a revitalization of the annual energy efficiency information that is provided to each City within SDG&E's service territory.

STATEWIDE EMERGING TECHNOLOGIES PROGRAMS

Program Description

The Statewide Emerging Technologies Program (ETP) supports the California Investor-Owned Utility (IOU) energy efficiency (EE) programs in their achievement of aggressive objectives through three (3) subprograms. The Technology Introduction (TIS) subprogram supports efforts to introduce technologies to the market by exposing end users to applications of emerging technologies in real-world settings, and by using third-party projects to deploy technologies, on a limited scale, in the market. The Technology Assessment (TA) subprogram identifies and assesses the performance of emerging EE technologies and solutions that may be offered to customers with an incentive. The Technology Development Support (TDS) subprogram promotes efforts to increase technology supply by educating technology developers about technical and programmatic requirements for rebated (incentivized) measures.

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.

A. 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 and Behavioral 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 CLTEESP and ZNE goals. DS introduce 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 and

Behavioral studies are designed to perform targeted research on customer behavior, decision making and market behavior to gain a qualitative and quantitative understanding of customer perceptions, 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 2019 was initiating one (1) new project, and there were two (2) projects initiated. Both projects support Statewide Plug Load and Appliances (PLA) program. One project is to evaluate the EE and DR potentials of an interactive energy monitoring device that provides consistent reminders of the Time of Use (TOU) time periods for customers to help reduce usage during peak times and participate in DR events. The second project is to address both the technology and population aspects to targeting continued EE and DR programs on plug load devices, to develop technology roadmap and strategies directed towards implementation over the very near term as well as an extended 5-10 year timeline. Throughout 2019, the SDG&E ETP participated in key industry advisory committees, conferences, open forums and webinars to share research results with stakeholders and interested public audiences. Completed project reports were published to the ETCC website and also shared during the ET Summit held in October of 2019.

2019 Program Accomplishments

The program requires SDG&E to initiate one TIS project in 2019, SDG&E initiated two as noted before. SDG&E completed Statewide PLA Roadmap project with CalPlug, and the final report was published to the ETCC website for public sharing. SDG&E also completed the previously started Gas Heat Pump Market & Technology Development Roadmap project with Gas Technologies Institute (GTI) in 2019 and the findings and knowledge gained were

transferred to both internal and external stakeholders as well as interested audiences. Other notable activities in collaboration with ETCC leadership and partners include: (1) the Statewide ETP program successfully conducted the ET Summits 2019, which attracted over 150 attendees; (2) kicked-off the electric Technology Priority Maps (TPMs) statewide updates. The updates will include broad stakeholder input and will be concluded in Q3 2020; and (3) enhanced the ETCC Website to facilitate project activity searches.

B. 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 on 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 four (4) new projects initiated in 2019 which met the required program goal. These four projects focused on the areas of advanced lighting controls and plug loads monitoring, residential compressorless HVAC, refrigeration temperature sensor, and advanced energy community opportunities. Completed project reports were published to the ETCC website and also shared during the ET Summit held in October of 2019.

2019 Program Accomplishments

In addition to initiating four new TA projects, SDG&E's program completed three previously initiated projects in 2019. These are: Dynamic Air Balancing for Commercial HVAC systems, Direct Current (DC) distribution systems for indoor commercial lighting applications with CLTC (California Lighting Technology Center), and Phase 3 Evaluation of Lab Grade Refrigerators and Low Temperature Freezers with CEEL (Center for Energy Efficiency Labs). The Dynamic Air Balancing project was recommended for transfer to a custom measure. SDG&E collaborated with IOU and non-IOU partners in scanning a wide variety of sources for assessment candidates. Coordinated among ETCC members in intaking ideas and assessments and shared technology information through ET Summit 2019. Coordinated webinars with ETCC on various topics for the commercial building, industrial, agricultural, and residential sectors. The SW ETP Leadership team also organized an in-person meeting of the ETCC Advisory Council to gain insight from national experts on key topics of interests to ETP.

C. 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 and influence in the process as the new technologies are developed. 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 education and outreach events, as well as leading a grant competition for energy related technologies.

Implemented Strategies

The program's goals for 2019 include initiating one (1) new TDS project, and SDG&E did initiate one new project, which supports research and testing of solar thermal collector to

augment a standard packaged HVAC system. 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 coaching, mentoring and seed funding to help start-ups develop products that address energy efficiency program needs and other sustainable initiatives and efforts.

2019 Program Accomplishments

In addition to the one (1) new TDS project initiated in 2019, the program continued to support the previously started horticulture project which compares High Intensity Discharge/High Pressure Sodium (HID/HPS) lighting used in indoor growing operations with symbiotic integrated systems. Also continued to collaborate with innovators from universities and other research institutions and maintain ongoing business relationships with investors interested in funding cost-effective EE technologies. The SW ET Team coordinated a webinar with the CEC's Electric Program Investment Charge (EPIC) and building technologies team.

Challenges/Changes for 2020

The ET program is scheduled to transition into a statewide 3rd party implementation model in late 2020 to 2021. SDG&E does not plan to initiate new local ET project, but instead to focus on completing the remaining active projects initiated in previous years. These include five under TIS, ten under TA, and two under TDS subprograms. The work of developing the Scope of Work subject matter for the Requests for Abstracts (RFAs) in collaboration with the SW ETP Program Administrators SCE and SoCalGas, their Independent Evaluators (IEs), nonlead funding IOUs (PG&E and SDG&E), and the Procurement Review Group (PRG) will continue in 2020. Once the SW structure takes full effect, ET projects will be selected and implemented as Technology Focused Pilots on a SW scale, guided by Technology Priority Maps.

STATEWIDE FINANCE PROGRAM

A. 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

OBF coordinates 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 in 2006, SDG&E's OBF program has funded over 1,600 loans totaling approximately $67 million as of year-end 2019, enabling businesses, local governments, and institutional customers to pursue increasing levels of energy efficiency. Although SDG&E has seen a reduction in commercial projects, there has been an uptake in industrial and institutional projects. SDG&E continues to implement a customer cap to ensure that future funding remains available for more customers.

Challenges/Changes for 2020

Project payback periods continues to be to be a challenge for some customers. The payback tends to be much longer than the 10-year maximum required for business projects to qualify.

2019 Program Accomplishments

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. In compliance with Decision 19-03-001, the 2019 default rate for OBF was 1.38% , and energy savings achieved were kWh 2,914,851, kW 161 and Therms 5,653.

STATEWIDE CODES AND STANDARDS PROGRAM

Program Description

The Statewide Codes and Standards (C&S) Program saves energy on behalf of ratepayers by conducting advocacy activities with regulatory bodies such as the California Energy Commission (CEC) and the U.S. Department of Energy (DOE) to strengthen EE regulations through the Building and Appliance Advocacy subprograms. The Program conducts efforts to increase compliance with existing C&S building and appliance regulations through the Compliance Enhancement subprogram to ensure that California realizes the savings from new codes and standards. The Reach Codes subprogram 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.

C&S program advocacy, compliance enhancement activities (training, tools and resources) and reach code activities extend to virtually all buildings and appliances in California in support of the California's ambitious climate and energy goals. Through the adoption of 2019 California Building Energy Efficiency Standards (Title 24, Part 6), the CLTEESP has achieved the following goal, "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." The C&S Program continues to move California towards the CLTEESP goal that high rise multifamily and non-residential new construction will be ZNE buildings by 2030. The C&S program works with regulatory agencies, jurisdictions and compliance enhancement market actors to achieve these additional California objectives:

a) Carbon reduction targets in 2020 equivalent to 1990 emissions levels (California Assembly Bill 32) 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
c) Near-zero-emission building technologies to significantly reduce the emissions of

greenhouse gases from buildings (California Senate Bill 1477 and Assembly Bill 3232).

Implemented Strategies

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

Challenges/Changes for 2020

The five Codes and Standards subprograms are faced with new challenges and opportunities as the grid modernizes to meet California's aggressive climate goals. Buildings and appliances are at the forefront of climate change as they provide an opportunity to reduce GHGs in the future.

- The Building and Appliance Standards advocacy subprograms will be faced with change at the California and Federal level where solutions for ZNE will be merged with GHG (Green House Gas) metrics in the future. These changes will be integrated into the advocacy subprograms and take effect in the 2022, 2025, 2028 and 2031 Triennial Title 24 Building Code updates.
- The Reach Code subprogram will continue to provide innovative solutions to jurisdictions requesting ZNE reach codes that will be used to inform the Title 24 Building Standards updates.

- The Planning & Coordination subprogram continues to address some of the market challenges of implementing these progressive building and standards updates by collaborating with all market actors that will influence new measure development of the future.

2019 Program Accomplishments

The coordinated approach of the five Codes and Standards subprograms created opportunities for crosscutting deliverables to support meeting California's climate goals through the Building and Appliance Standards.

- The Building Code and Advocacy subprogram refined building code measure proposals into Codes and Standards Enhancement (CASE) reports to deliver future savings for the 2022 Title 24 Code cycle.
- The Appliance Standards Advocacy subprogram developed CASE studies for the CEC's Title 20 Appliance Standards rulemakings and participated in several DOE appliance standard rulemakings.
- The Compliance Enhancement subprogram was at the forefront of educating all market actors in 2019 in the adoption of new building and appliance standards by creating new interactive tools, in person trainings and resources.
- The Compliance Enhancement subprogram simplified and automated the compliance process for the new 2019 Title 24 Building Code and Title 20 Appliance Standards through the development of effective trainings and dynamic digital tools that automate and verify compliance for all market actors.
- The Reach Code subprogram supported multiple jurisdictions showing interest in creating reach codes by developing resources and residential and commercial cost-effectiveness studies to support reach code development.
- The Planning and Coordination subprogram delivered a coordinated approach to C&S building and appliance impacts for internal and external stakeholders on long-term planning, scenario analyses, and modeling climate impacts.

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

Program Description

The Building Codes & Compliance Advocacy subprogram primarily supports the CEC'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 CEC in making recommendations to the Building Standards Commission (BSC) for updates to Title 24, Part 11 (CALGreen). The energy measures in CALGreen provide foundational elements for local energy ordinances or reach codes.

Implemented Strategies

In May 2018, the CEC adopted a triennial update to California's Building Energy Efficiency Standards, which applies to all new construction, additions, and alteration projects permitted on or after January 1, 2020. The 2019 final CASE reports and Results Reports, which compare what was proposed to what was adopted, are available online at www.title24stakeholders.com. The Building Energy Code was first developed in 1970's, and IOU code-setting advocacy continued to grow with the addition of Sacramento Municipal Utility Department (SMUD) and Los Angeles Department of Water and Power (LADWP) who have committed to financial and staff support for the 2022 Title 24 Building Energy Code update.

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 does not 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.

Challenges/Changes for 2020

As the CEC's focus on grid harmonization increases, it is necessary for the Building (Title 24 – Part 6) to encourage high rise multifamily and commercial buildings' electrical systems to be ready for integration with renewables, storage and respond to signals from the electrical grid. As all building types approach ZNE in 2030 and California's zero emissions goals evolve, a greater percentage of C&S program efforts will need to be focused on integrating energy efficiency measures with Distributed Energy Resources (DER), generally funded in non-EE proceedings. There are efficiency opportunities to influence improvements in the 2022 Building Standards supporting software and compliance tools, with a specific need to address increased focus on new construction of commercial, mixed use and multifamily buildings to address California's climate goals and affordable housing needs.

To comply with the CPUC's Statewide program and outsourcing goals, State and Federal Advocacy subprogram prepared for the transition to a Statewide Codes and Standards Advocacy program under PG&E as the Statewide Third-Party Program Administrator, which commenced

in early 2020. Activities completed to support this included the introduction of a statewide balancing account, budget sharing negotiation, administrative costs agreements, and the continued implementation of co-funding agreements with PG&E in 2019.

2019 Program Accomplishments:

In 2019, the Statewide Utility Codes and Standards Program supported the CEC's 2022 Title 24 Building Standards rulemaking by narrowing the potential measure pursuit list to 79 building code measure proposals which will be included in 24 Codes and Standards Enhancement (CASE) reports. The focus for the 2022 cycle is on multifamily and non-residential buildings. Single family CASE reports will explore compliance options that will prepare for added stringency in the 2025 cycle. Final CASE reports will be submitted to the CEC for review in the third quarter of 2020. A list of these measures is available at www.title24stakeholders.com. This public website was redesigned for the 2022 rulemaking cycle to increase and encourage stakeholder participation in the process, and the team conducted 12 online 'Public Workshops' with stakeholders that may be impacted by proposed code changes. Twenty-six email campaigns led to an open rate of approximately 30% and a click through rate of 17%, which is much higher than past figures. The outreach efforts led to approximately 997 total attendees for all 12 meetings. This is a marked improvement from previous cycles.

The Statewide IOU Codes and Standards Program advocated for national building codes and appliance standards that support California by encouraging adoption of transformative technologies and construction processes. Alignment between national and state codes also helps reduce barriers to compliance by harmonizing the requirements across state borders. Organizations that work across multiple states, including California, can establish business practices that would result in less customization for the California market. Participation in the DOE, Environmental Protection Agency (EPA), Federal Trade Commission (FTC), ASHRAE code and standard update proceedings in support of increasing requirements is important to minimize gaps, when regionally appropriate, between the California's and other state's EE regulations.

B. 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 CEC, and improvements to federal appliance regulations and specifications by the DOE, EPA ENERGY STAR® Program, ASHRAE, and the Federal Trade Commission (FTC). Additionally, the subprogram monitors state and federal legislation and intervenes, as appropriate.

Implemented Strategies

The Appliance Standards Advocacy (ASA) subprogram targeted improvements to Title 20 by the CEC. Advocacy activities included developing Title 20 code enhancement proposals, participated in the CEC public rulemaking process and ASHRAE committees, collected data to support IOU positions, submitted comment letters in federal standards proceedings, and participated in direct negotiations with industry.

The IOUs also 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® Program and participated in stakeholder meetings during rulemakings and specifications processes.

Challenges/Changes for 2020

As the CEC's focus on grid harmonization increases, it is necessary for the Appliance Standards subprogram to encourage appliance standards enabled to be ready for integration with renewables, storage and respond to signals from the electrical grid. As all building types approach ZNE in 2030 and California's zero emissions goals evolve, a greater percentage of C&S program efforts will need to be focused on integrating energy efficiency measures with Distributed Energy Resources (DER), generally funded in non-EE proceedings. There are efficiency opportunities to influence improvements in the Appliance Standards development at the CEC, DOE and ENERGY STAR through multiple efforts including direction from new California Legislature including Senate Bill 49 which encourages appliance load shifting opportunities and Senate Bill 1477's Decarbonization legislation which encourages the

development of new Codes and Standards activities for building decarbonization as the CEC and CPUC coordinate efforts to meet California's aggressive climate goals.

To comply with the CPUC's Statewide program and outsourcing goals, State and Federal Advocacy subprogram prepared for the transition to a Statewide Codes and Standards Advocacy program under PG&E as the Statewide Third-Party Program Administrator, which commenced in early 2020. Activities completed to support this included the introduction of a statewide balancing account, budget sharing negotiation, administrative costs agreements, and the continued implementation of co-funding agreements with PG&E in 2019.

2019 Program Accomplishments

First, at the Federal level the ASA subprogram advocacy efforts in changes to federal appliance standards included staff research, participating in stakeholder meetings and specification processes conducted by DOE and EPA ENERGY STAR®, the teams efforts resulted in rulemaking advocacy letters issued in 2019. For example, the ASA subprogram was also actively engaged with the DOE's Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC) 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. As a result of the IOUs efforts, there will be significant savings, and equipment ratings will be indicative of equipment performance.

Second, the ASA subprogram advocacy efforts included the CASE team sharing key findings with the ASHRAE 90.1 Lighting Subcommittee to support the analysis of exploring whether 'Lighting Power Densities' (LPDs) could be adjusted to meet the standard with newer LED lighting technologies at an international level. ASHRAE's 90.1 Standard provides the minimum requirements for energy efficient design and benchmarking for all buildings being built or retrofitted except low-rise residential buildings. The IOU's CASE analysis and results finalized the ability for the ASHRAE 90.1 Standard to also allow the LPDs to be based on LED lighting models. This shows the ability of California IOUs advocacy efforts informing ASHRAE's 90.1 which is used by over 120 countries around the world.

Third, ASA subprogram supported CEC efforts at the state level also. The ASA subprogram provided material support for the CEC's adoption of the portable electric spas,

compressor and portable air conditioner standards. ASA subprogram staff participated in several CEC webinars and workshops and developed CASE studies for the CEC on products including spray sprinkler bodies, commercial & industrial (C&I) fans and blowers, expanded GSL (General Service Lamp) 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.

C. SDGE3251 SW-C&S – Compliance Enhancement

Program Description

The Compliance Enhancement (CE) subprogram supports increased compliance with the adopted Building Energy Efficiency Standards and the Appliance Standards. Compliance enhancement and improvement activities complement advocacy work by maximizing verified, persistent savings from C&S activities. The CE 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 2019, the CE 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
- 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 CE subprogram they want and need in order to improve compliance on building and appliance standards. These tools were designed and completed in close collaboration and approval by the CEC staff. Most of the work in 2019 was to update these tools for the launch of the new 2019

Title 24 Building Standards effective January 1, 2020.

Challenges/Changes for 2020

The current SDG&E CE subprogram is very successful in reaching a broad audience of builders, developers, engineers, contractors, building inspectors, plans examiners, building officials, architects, program managers, Certified Energy Analysts (CEA) and multiple additional market actors involved in the construction of homes and buildings. As the future of construction evolves to adapt to California's climate and Zero Net Energy (ZNE) goals, there will be an opportunity for additional stakeholders to be educated in a changing construction landscape. The SDG&E CE subprogram will be ready to adapt to the changing demand as the California Building and Appliance Standards become more stringent between now and key milestones in California's energy future for 2030 like Senate Bill 350 (CEC's Doubling Energy Efficiency Savings) and ZNE for commercial new construction.

2019 Program Accomplishments

In 2019, SDG&E's CE subprogram delivered training, facilitated updating the Energy Code Ace (ECA) curriculum, online tools and resource library in preparation for the 2019 Energy Code effective date of January 1, 2020. The CE subprogram's target audience now includes the healthcare industry and the California Office of Statewide Health Planning and Development (OSHPD) selected ECA as their preferred training provider for the healthcare practitioners who must now comply with 2019 Energy Code requirements. As a result, a new training webinar was developed and needs assessments were conducted to inform new curriculum for the health care industry.

SDG&E worked alongside the CEC in developing a self-guided online verification tool online interface that building industry practitioners are now using to document and verify compliance for nonresidential additions and alterations. This enhanced version of the CE subprogram's Forms Ace builds on the dynamic PDFs compliance forms launched last year. The new interface guides permit applicants and the design community through important compliance decisions while completing the applicable forms and enables collaboration between key decision makers. Forms generated by the enhanced Forms Ace help expedite plan review by indicating project compliance.

SDG&E's CE subprogram led continued outreach efforts including targeted email messages, ads, articles in industry publications and participation in more than 65 Title 24, Part 6 and Title 20 industry events in 2019. The ECA website continues to gain traction growing to 8,276 registered users. In addition to serving as the gateway to training, tools and resources, the site also facilitates communication between industry and ECA experts. In 2019 alone, the CE subprogram fielded over 1,125 email, responding through e-mail conversations and/or in-depth phone calls with various types of code practitioners. The CI subprogram also continued supporting the development of Certified Energy Analysts (CEAs) through a new curriculum, mentoring program and exam proctoring while updating the CEA exam for 2019 energy code requirements.

D. 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 (RC) program support for local governments includes research and analysis to establish performance levels and cost effectiveness relative to Title 24 by climate zone, drafting model ordinance templates to encourage regional consistency, assistance for completing and expediting the application process required for approval by the CEC, and supporting implementation once effective.

Implemented Strategies

Many local jurisdictions have established goals within their Climate Action Plans (CAPs) 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 state and federal levels, 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 state and local level.

With adoption of the 2019 Energy Code, an all-electric baseline was created for low rise residential new construction, therefore allowing all-electric designs to comply with and exceed the Energy Code more readily. Changes to the state code created a path for local jurisdictions to accelerate emissions reductions in new construction. Most interested jurisdictions are opting for one of the following options, or a combination of the options applied by building use type:

- Electric Preferred: requires mixed fuel designs to exceed the code and all-electric designs to comply only
- Electric-ready: requires mixed fuel designs to install conduit and or/wiring to enable future conversion to electric equipment
- All-electric: restricts new construction to all-electric designs only
- Prohibition against new natural gas infrastructure (not amending building code)

Some jurisdictions are pursuing measure-based reach codes. such as requiring sustainable cool roofs or PV systems on nonresidential projects. Additionally, over 30 jurisdictions are assembling a pro-electrification package targeting the whole building.

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.

Challenges/Changes for 2020

In 2019, the SDG&E RC subprogram continued to evolve as the demand for reach codes increased across California driven by jurisdictions looking to reach Climate Action Plan goals through progressive reach codes, and as California looks to meet the 2030 Senate Bill 350 (Doubling of Energy Efficiency goal) and 2030 ZNE (Zero Net Energy) goals for commercial new construction through innovative ways. Reach codes will be a common path to meet these demands, and the SDG&E RC subprogram will need to innovate to assist jurisdictions and market actors to adapt to this changing reach code landscape. The change to the current RC subprogram will be to scale up efforts to deliver more solutions to a growing number of

jurisdictions looking to pursue reach codes in 2020.

2019 Program Accomplishments

In 2019, three reach codes over the 2016 Energy Code were passed to capture the permits pulled for those buildings in the last year (2019) of the cycle including Carlsbad, Davis and Los Angeles County. Approved local ordinances may be found on the CEC website. Local ordinances passed later in the year that will extend over the new 2019 Energy Code include: City of Carlsbad (8/14/2019), Marin County (12/11/2019), Menlo Park (12/11/2019), San Jose (12/11/2019), City of San Mateo (12/11/2019), Santa Monica (12/11/2019) and West Hollywood (12/11/2019).

Throughout the year, work to support the jurisdictions pursuing reach codes included analysis and report development, technical support, reach code resource accessibility improvements, and other activities. The IOUs combined resources to complete the following cost-effectiveness studies: Residential New Construction, Non-residential New Construction, Residential Retrofits, 2019 Passive House Equivalency Analysis, and Energy Plus Water which is a complex package of measures to reduce water and energy use simultaneously.

Following the adoption of the 2019 Energy Code, statewide interest in reach codes accelerated rapidly, fueled by the desire to decarbonize the building sector to meet California's climate control goals. Jurisdictions looked to a more diverse community for information. To support improved outreach efforts to remain a trusted resource in this growing area, SDG&E continued updating and adding content to www.LocalEnergyCodes.com, which contains all subprogram studies, as well as model ordinance and resolution language to create statewide consistency of reach codes.

The site includes an interactive map feature to display which jurisdictions have passed reach codes, and a companion matrix listing all information contained in the map to allow users to view the information in a different format, compare similar ordinances, and link directly to an ordinance posted on the jurisdiction's web site. From its launch in July 2017, the site has gained 763 registered users and has had more than 53,000 unique sessions. The 2019 Local Energy Ordinances page is the most popular with 4,525 views in 2019, followed by the About Us and Resources pages with 2,819 and 2,320 views in 2019 respectively. The table below shows the

top five studies, and the numbers of times each was downloaded in 2019:

File Name	2019 Downloads
2019 Residential New Construction Cost-effectiveness Study	1,194
2019 Nonresidential New Construction Cost-effectiveness Study	731
2019 Reach Code Opportunities Matrix	553
2019 Reach Code Options and Opportunities	479
2019 Reach Codes Process and Timeline	375

In addition to maintaining stakeholder engagement through the website, the team launched a monthly newsletter starting in September 2019 that offers insight into the rapidly evolving reach code landscape and highlights "Frontrunner" cities that are leading the way. The team also initiated a presence on social media and began posting relevant content. SDG&E's RC subprogram was part of a collaborative effort that planned and hosted 4 regional Reach Codes Best Practices workshops throughout California in 2019. The workshops were held in San Francisco (partnered with BayREN), San Diego, Ontario, and Irvine and had attendees from stakeholder organizations, including city or county staff members. Presentations from the workshops were downloaded 873 times by the close of the year.

SDG&E's RC subprogram in collaboration with the other IOUs, held a technical webinar to discuss the early draft results of the Residential New Construction and Non-residential New Construction cost-effectiveness studies. The webinar was attended by multiple city and county staff members.

E. 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

The integrated Planning and Coordination (PC) subprogram approach of the planning and coordination elements requires managing perspectives, relationships and expectations of multiple market actors. Codes and standards impact the entire state and almost all building types, occupancy categories, and related technologies. The PC subprogram requires collaboration with the following stakeholders who either influence or implement codes and standards for buildings and appliances: a) CPUC, CEC, CARB (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), and others.

Challenges/Changes for 2020

The planning and coordination activities require a strong ability to manage and deliver strategies to meet the ZNE (Zero Net Energy) goals in the future years. This subprogram will continue to adapt as more market actors look to the building and appliance standards to meet California climate goals. These planning and coordination activities will continue to become more important as more stakeholders and market actors begin to drive the innovation needed to deliver these climate goals.

2019 Program Accomplishments

With the current absence of a formal ZNE 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.

STATEWIDE INTEGRATED DEMAND SIDE MANAGEMENT (IDSM)

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

Program Description:

SDG&E's 2019 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 2019, SDG&E continued to work with an established network of more than 190 business and residential associations, nonprofits and community-based organizations (CBO's), collectively called SDG&E's Energy Solutions Partner Network (ESPN). These organizations represent the diversity of SDG&E's customers within its service area. Many of these organizations are small, grassroots agencies serving customers that are multicultural/multilingual, seniors, veterans, small business, trade associations, and area

chambers of commerce. These partners help educate and encourage customer participation in SDG&E's IDSM programs through a variety of tactics including: social media channels such as Facebook, Twitter, and Instagram, posting information on their websites, e-blasts, newsletters, providing booth space for SDG&E outreach teams at their events and hosting enrollment day fairs at their locations. Additionally, the Outreach team works closely with the Energy Solutions Partner Network providing in-person presentations to customers on SDG&E program updates through-out the year including hands on training with website navigation of My Account and other SDG&E program resources.

1. Residential Outreach

Several of the most effective ways to promote residential IDSM measures in 2019 continued to be centered on community sustainability and local events, health and wellness fairs at employer work sites, libraries, and Cool Zone sites. These local events allowed the Outreach team to interact with hundreds of residential customers in one location and answer any questions customers may have. Outreach Advisors also provided customized presentations to partners and their members where attendees were able to ask questions and receive guidance with MyAccount, energy related programs and services and SDG&E's Marketplace. Additionally, the ongoing initiatives around safety, emergency and wildfire preparedness including SDG&E's Wildfire Safety Fairs also provides unique opportunities to promote energy related solutions to our residential customers.

Throughout the year, the Energy Solutions Partner Network distributed online and social media messaging that included information on behavioral tips, residential rebates and incentives, Energy Savings Assistance, Cool Zones, 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, including smart thermostats.

Another successful and ongoing outreach strategy is to provide the latest information on residential energy efficiency programs and services at our Cool Zone sites. 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 located in senior centers and other public buildings that provide a cool space to some of the hottest areas in the San Diego region where and when it is most needed. The outreach team worked with these Cool Zone partners to leave behind residential energy efficiency program marketing material for anyone that came through one of the centers.

2. Business Marketing & Outreach

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. The Energy Solutions Partners helped spread information to local business customers about available rebates and incentive programs including Business Energy Solutions, Energy Efficiency Business Rebates, Critical Peak Pricing, Energy Savings Assistance, Building Envelope Program, Business Energy Analyzer, On-Bill Financing, My Account tools and alerts.

In 2019, SDG&E continued to partner with San Diego SCORE. This organization hosted several Women's Business Networking Breakfasts in 2019 providing information on SDG&E business programs and services, time-of-use pricing plans and other initiatives pertinent to small business customers. The breakfast event hosted over 100 attendees on average supporting local women in business. Additionally, SCORE and SDG&E collaborated again to host a workshop educating restaurant owners on the basics of business acumen. During the workshop SDG&E shared information about rebates and programs available to businesses that can make a difference to their bottom line. San Diego SCORE is a non-profit organization comprised of volunteer business mentors offering free advice to small businesses. Their mission is to promote the success of small business in San Diego and Imperial Counties.

Chambers of Commerce proved to be another effective channel to reach small and medium size business customers in 2019. SDG&E's Outreach team provided personalized presentations to chamber members and attended chamber networking opportunities and business events with educational information that includes energy efficiency programs, demand response programs, pricing plans and time-of-use updates. This partnership allowed SDG&E to reach a diverse audience within the business community. In 2019, a few of these chambers included

Alpine Chamber of Commerce, Ramona Chamber of Commerce and Vista Chamber of Commerce.

SDG&E held its' annual Energy Showcase event at the San Diego Convention Center, with over 350 guests and state and local officials, celebrating eight "Excellence in Energy Leadership" winners. These business customers were recognized for implementing comprehensive energy solutions helping them to be more cost and energy efficient. The showcase provided an opportunity to inspire attending customers to become future award winners and to 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 presented 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. The eight 2019 Excellence in Energy Leadership winners are:

- KNSD/NBC 7 San Diego: Numerous energy efficiency elements were designed into its newly constructed state-of-the-art broadcast facility making it one of the most environmentally friendly news centers in the region.
- Ocean Discovery Institute: An ocean science institute that focuses on educating youth achieved LEED Platinum certification through installation of several energy efficient measures, solar tree and rooftop solar and various other sustainable features in its building.
- Viejas Casino & Resort: Viejas' casino and resort expansion incorporated diverse energy efficient measures including lighting, controls, economizers, air chillers, freezer measures, state of the art water filtration system, kitchen hood controls, air filtration as well as water heaters, resulting in approximately 3GWh in savings.
- Hunter Industries: This innovative industrial customer achieved efficiencies in energy use through a comprehensive energy management approach that includes implementation of renewable energy resources as well as tracking and measuring the effectiveness of their sustainability practices.

- Grossmont Union High School District: By employing energy and resource management strategies and through participation in energy efficiency and demand response programs, the school district reduced energy consumption at 12 high schools and adult school facilities. In addition, the district supports energy efficiency education with staff and students through e-blasts and flyers posted throughout campus.
- Helix Water District: Serving nearly 500,000 customers, the water district implemented water treatment projects to reduce its electrical consumption by 25%, installed several energy efficiency measures, solar and storage as well as Power Your Drive electric vehicle charging stations.
- SANDAG: SANDAG created a Regional Climate Action Planning Framework (ReCAP) identifying best practices and consistent methodology for preparing CAPs and monitors their implementation over time. Fifteen local jurisdictions have used ReCAP to guide their CAP Planning and implementation process.
- North Park Seniors by Community Housing Works: Consistently striving to develop energy efficient and sustainable affordable housing, the North Park seniors complex participated in SDG&E's California Advanced New Homes Program and achieved a score of nearly 24% better than 2016 Title 24. Clean technology installations include solar PV and a solar thermal water heating system. Its comprehensive sustainability efforts includes xeriscaping and helping its residents learn and implement strategies for energy & water conservation.

Along with the awards, the showcase program featured a special VIP panel of keynote energy experts including representatives from the following organizations: California Public Utilities Commission, California Energy Commission, California Electric Transportation Coalition, Executive of Energy Supply – San Diego Gas and Electric, and Cleantech San Diego.

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 2019 to increase overall visitor awareness and continue to make comprehensive upgrades to park facilities.

During 2019, BPCP implemented several energy efficiency projects within park buildings. BPCP submitted applications to recertify four Park buildings for consideration through LEED for Operations and Maintenance: Casa del Prado, Casa de Balboa, the Fleet Science Center, and The Old Globe. BPCP was notified that Casa de Balboa which houses the San Diego History Center, Museum of Photographic Art, and the San Diego Model Railroad Museum achieved LEED Gold recertification which surpassed the previous certification level of LEED Silver.

In addition, BPCP developed over 20 Sustainability Action Plans for members of the Balboa Park Cultural Partnership to help guide their environmental strategies in Energy, Waste, Water, Education/Outreach, Green Purchasing and Alternative Transportation. BPCP's Sustainability Program engaged nearly 1,350 people through educational programs, scholarships to facility staff, Sustainability Walk-About Tours, public events and volunteer opportunities. BPCP also celebrated Energy Efficiency Day on October 2nd, by launching a campaign to challenge member organization's staff and volunteers in Balboa Park to reduce their energy usage for the week. In an educational twist on the game of bingo, energy fun facts and saving tips were brought to the Park staff's attention. Many Energy Efficiency (EE) Bingo spaces were filled with an energy saving practice that is incredibly simple yet effective in reducing consumption. Eight Balboa Park organizations participated.

3. Awareness Campaigns and Targeted ME&O

In 2019, SDG&E was able to offer a $125 combined energy-efficiency and demand response instant rebate on Ecobee smart thermostats for residential customers. Energy-Efficiency contributed $75 off per thermostat, while Demand Response provided $50. For a customer to receive the $125 rebate, they had to agree to join SDG&E's AC Saver program through demand response. By joining the program, customers allow SDG&E to remotely adjust

their thermostats during critical peak energy periods. This offer ran August through December with heavier promotion in November around Black Friday.

Promotion for the offer was done through Email, Paid Search and Paid Social ads. SDG&E sent out over a million emails during the campaign. The email campaign generated approximately a 35% open rate and nearly 23,000 clicks. Paid Search and Paid Social ads provided approximately 365,000 impressions with roughly 7,400 clicks across these channels. The entire campaign delivered more than 350 total enrollments in the program.

Challenges/Changes for 2020

The SDG&E Energy Solutions Partner Network will remain an integral part of the company's marketing and outreach efforts. In 2020, working with the partner network on events and targeted social media will continue to be instrumental in educating customers with up to date information of programs and services.

2019 Program Accomplishments

Over 190 Energy Solutions Partners actively collaborated with SDG&E reaching residential and business customers with integrated energy related information through multiple platforms of engagement resulting in over 1,000 activities and over 400 meetings and social media posts. Additionally, approximately 160 attendees representing over 60 residential and business partner organizations attended the end of the year Energy Solutions Partner Network luncheon. All attendees were provided a recap and updates of the upcoming changes to SDG&E programs and services and how their partnership impacts how SDG&E reaches its customers. The partners were presented with information on how they directly and indirectly contributed to SDG&E program participation

B. 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:

- A normative comparison contextualizing a household's energy use against that of a set of "neighbors" with similar attributes
- A personal comparison showing the household its energy use over time
- 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, 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.

SDG&E collaborated with the vendor to market the online audit to allow customers to receive energy saving recommendations. Additionally, the online audit enhances the Home Energy Report recipients with a more relevant neighbor comparison. 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 & Rewards component of the platform awards 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.

In 2019, the program had another expansion to an additional 100,000 recipients, while still maintaining the ability for the randomized control group. Additionally, the program launched a Target Rank Experience allowing recipients a view of their rankings among similar homes. The Home Energy Report comparison module displaying the term neighbor has mixed responses from recipients and resulted in some customer satisfaction issues. In 2019, the module was updated to display a comparison to similar homes.

Challenges/Changes for 2020

Changes for 2020 include the potential for adding high bill alerts to allow customers to proactively learn about current usage and take immediate action to reduce their use.

Program Accomplishments

During the 2019 program year, the Home Energy Report recipients who opted out of the receiving the reports remained low. Electronic report open rates ranged in the 50% rate, beating the national average of 43%. The average percentage of unique web viewers of the customer portal accessed via home energy reports consistently reached in the 85% range – and February reached 94%.

Customer satisfaction issues reduced by the introduction of *similar homes* comparison vs *neighbor* comparison. More than 2,600 completed audits were submitted by customers in 2019. This is in addition to the number of audits in the HEES program, completed by customers who log into their online account. Enrollments in Points and Rewards increased during 2019, resulting in a total of more than 9,700 customers earning rewards.

C. SDGE3282 SW-IDSM – IDSM

Program Description

The CLTEESP 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 '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 CLTEESP 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.

Development of proposed measurement and evaluation protocols for IDSM programs and projects.

Review IDSM enabling emerging technologies for potential inclusion in integrated programs.

Development of cross-utility standardized integrated audit tools using PG&E's developed audits as a starting point.

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).

Develop regular reports on IDSM progress and recommendations to the CPUC.

Organize and oversee internal utility IDSM strategies by establishing internal Integration Teams with staff from EE, DR, DG, marketing, and delivery channels.

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

Directives 1 and 2: Cost-Effectiveness and EM&V

The Statewide IDSM Task Force is exploring a phased approach to developing an appropriate methodology for calculating integrated cost-effectiveness and an integrated EM&V approach for IDSM programs and projects.

- Integrated Cost Effectiveness Research will establish data needs to inform the understanding of integrated cost-effectiveness for IDSM programs and projects
- An integrated EM&V White Paper is expected to show how the IOUs and the CPUC's Energy Division (ED) will document and attribute energy savings and demand reduction to IDSM project implementation, using methodologies established from evaluation. In 2019, no additional reports were completed
- Further efforts on integrating cost-effectiveness and EM&V methodologies are being addressed in the Integrated Distributed Energy Resources (IDER) proceeding.[2]

Directive 3: Integrated Emerging Technologies

The Statewide IDSM team tracked multiple integrated emerging technologies that have some combination of EE, DR, and/or renewable self-generation capabilities. The team reviewed various programs, projects, IDSM Pilots, and activities to identify integration efforts and opportunities, and to develop best practices. Several IDSM pilots and projects continued in 2019, including several Zero Net Energy (ZNE) projects as well as projects testing DSM and DR with batteries, dynamic air balancing for commercial HVAC systems, interactive mobile device apps for EE, DR, and TOU energy management, and "smart home" voice assistance for EE and DR.

Directive 4: Integrated Audits

The Statewide IDSM Task Force continued to coordinate the delivery of a consistent online integrated audit tool that works with each IOU interface and educates residential and small-to-medium business customers on managing their energy usage and costs. The tool provided customers with customized audit recommendations that were based on customer

[2] R.14-10-003.

profiles, operating characteristics, market sector potential, and cost-effectiveness. The team also enhanced existing integrated tools to include solar-related functionality, and continued to offer on-site integrated audits to small, medium, and large customers.

Directive 5: Integrated Pilots, Programs, and Activities

The Task Force regularly reviews and tracks the results of various programs, IDSM Pilots, and other activities, identifies and promotes integration opportunities, and tracks projects where integrated efforts are underway to identify and develop best practices. Notable integrated pilots, programs, and activities include:

- Demand Response and Energy Efficiency – Reduce Your Use (RYU) Thermostat Technology Deployment (TD)
- Commercial Technology Deployment (TD)
- Behavioral Programs
- Integrated California Solar Initiative
- Integrated Workforce Education & Training Program Activities

Directive 6: Regular Reports

The Statewide IDSM Task Force held regular coordination phone calls to continue ensuring alignment across the state and to discuss lessons learned. The Task Force also reviews integration activities and tracks results through statewide meetings and formal reports to the CPUC. The reports can be found at the CPUC's EE Stats website. As noted below, the Statewide IDSM Task Force will discontinue submitting quarterly reports and will proceed by providing updates in the EE Annual Report.

Directive 7: Internal Teams

In compliance with this directive, the IOUs have developed internal integration teams that meet monthly or on an as-needed basis with IOU staff from the EE, DR, DG/CSI, and ESA Programs.

Directive 8: Integrated Marketing

Delivery of IDSM marketing in 2019 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 Statewide 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
- CARE High Usage Campaign
- Home Energy Checkup
- Peak Day Pricing Welcome Kit
- Large commercial and industrial customer Demand Response Industry Engagement
- A digital, social media, and direct mail campaign to promote the smart thermostat rebate during the Black Friday and winter holiday promotional period, and
- Participation in residential and business events to promote IDSM offerings, including energy efficiency, solar thermal, and advanced metering.

Challenges/Changes for 2020

The Statewide IDSM team will be developing a new reporting template for the 2020 Annual Report. This effort will need to be heavily coordinated with the IOU's and will require CPUC approval. Also, coordination with the new Third-Party implementors to ensure reporting activities follow the newly developed template.

2019 Program Accomplishments

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

Demand Response and Energy Efficiency – Reduce Your Use (RYU) Thermostat Technology Deployment (TD):

Because of market conditions and changing savings for smart thermostats, new implementation strategies were put to work in 2019:

- All Energy Star®-listed smart thermostat products were eligible for a rebate beginning mid-year
- The Plug Load and Appliance (PLA) Program also partnered with the Demand Response (DR) program to offer a joint rebate of $125 on qualifying smart thermostat products
- A new online portal was created for customers to easily enroll in the DR Program as they were being qualified for the traditional PLA rebate
- Additionally, the Program focused its resources on marketing heat pump water heaters and, for a limited time at the end of the year, increased their rebate to $500. This increase in the rebate amount led to five times the typically realized sales activity in a single month

Commercial Technology Deployment (TD):

The Commercial Technology Deployment (TD) Bring Your Own Thermostat (BYOT) offer was launched in July 2019. SDG&E is currently offering a $50 incentive per thermostat, the same as for residential customers, for commercial customers willing to purchase, install, and sign up their thermostats for a qualifying DR program. SDG&E received 30 qualified applications for the incentive through the end of Q4; however, only nine customers submitted the required paperwork to complete the enrollment process.

Behavioral Programs:

The Home Energy Advisor (HEA) Program successfully reached its designated customer base in deploying 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, as well as serving as an entry point to additional services, including an online audit. More than 2,300 completed audits were submitted by customers in 2019. This is in addition to the number of audits in the HEA program, completed by customers who log into their My Account.

Energy Showcase:

With over 300 guests including business customers and local officials, SDG&E

celebrated eight "Excellence in Energy Leadership" winners at the annual Energy Showcase event held at the San Diego Convention Center. These customers were recognized for implementing comprehensive energy solutions for their businesses, helping them be more cost and energy efficient.

Energy Marketplace:

SDG&E's Energy Marketplace has surpassed two million site visits since its inception in January 2016. In 2019, Marketplace Sweepstakes were conducted to build awareness of energy-saving products, and consumers were awarded Smart Thermostats, LED Bulbs, and Smart Power Strips.

STATEWIDE WORKFORCE EDUCATION & TRAINING (WE&T)

A. SDGE3254 SW-WE&T – Integrated Energy Education Training (IEET)

Program Description

The Workforce, Education & Training (WE&T) IEET Subprogram is made up of specific market segments, including food service, commercial, and residential sectors. IEET focuses on skills and market development trainings, technical consultations, outreach events, and building performance tool loans. The largest component of this program, held at the Energy Innovation Center, provides 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 offers certification trainings and certificate programs through exam prep workshops in various formats such as online, classroom, and field training. 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 2019. SDG&E collaborated with International Facility Management Association (IFMA), San Diego Building Energy Association (SDBEA) and BioCom to offer customized educational seminars. The two-hour seminars included topics on Project Management for Energy Efficiency, Best Practice Designs for Cost Effective Approaches to ZNE Commercial Building Enclosures and New Strategy in Building Optimization.

SDG&E offered home energy rating system certification courses 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.

SDG&E continued its partnership with the Center for Sustainable Energy (CSE) to offer a homeowner workshop that provided a broad overview of adopting energy efficiency and solar 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. A new comprehensive homeowner series was offered that addressed specific billing questions, the benefits of installing energy efficient equipment and learning how to correctly size a solar system, creating an integrated whole home project strategy.

SDG&E continued to collaborate with the National Electrical Contractors Association (NECA) to offer trainings on Title 24. Coordination with multiple city jurisdictions allowed a broader reach to educate audience on the upcoming changes in the code. These groups 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 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. San Diego Unified School District hosted a foodservice training class for their kitchen staff.

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. 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.

SDG&E provided a comprehensive training for realtors, appraisers, inspectors, and lenders. WE&T offered 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, Urban Corps offers hands-on trainings to their students between the ages of 18 to 26 to maintain the Energy Innovation Center demonstration garden. WE&T staff worked directly with other workforce organizations to recruit disadvantaged workers to attend certification trainings in Home Performance, certificate programs in Energy Efficiency Sales and Building Operator Certification.

The WE&T staff collaborated with SDG&E's Business Services department to offer a targeted workshop on Compressed Air Systems.

Challenges/Changes 2020

Attendee no show rate is a challenge and SDG&E is exploring solutions to help reduce this issue. This includes altering class times to accommodate attendee schedules, looking at options to remind attendees of their commitment and offering On-Demand/Live Stream options. SDG&E also faces the challenge of targeting new workforce participants. SDG&E is working on marketing efforts to increase awareness to identify potential new attendees. This includes social media efforts, enhanced email marketing and promotion of curriculums.

In 2019, SDG&E collaborated with San Diego Workforce Partnership on a study for a new sub-program, Core Energy Education. The work aimed to identify organizations or educational institutions with curriculum needs aligning with WE&T offerings. Through the Core Energy Education program SDG&E will offer:

- Track-specific technical education and training
- Support for teaching materials development
- Train-the-trainer
- "Kick-Start/early stage" initiative support
- Building performance measurement tools

In 2020, with the learnings from the study, SDG&E will collaborate with selected organizations and institutions to infuse energy efficiency into their curriculum.

The COVID-19 pandemic has created opportunities for SDG&E to expand online training and seminars in response to Stay-at-Home ordinances.

2019 Program Accomplishments

- An estimated 10 certifications workshops mentioned in Implemented Strategies were offered
- SDG&E collaborated with International Facility Management Association (IFMA), San Diego Building Energy Association (SDBEA) and BioCom to offer approximately five customized educational seminars
- Two home energy rating system certification courses to home performance professionals that provided an overview of the California Home Energy Rating System (HERS) Program. Additionally, the HERS New Construction and Solar Certification course was offered in 2019. Students who completed the HERS Residential Alteration Certification were eligible to attend to obtain this additional certification
- Over 10 Trade Professional series of trainings were offered throughout 2019. Over 200 Trade Professionals participated in these trainings
- Over 500 homeowners participated in our homeowner workshops and series.
- An estimated 19 food service demonstrations, three consultations, and four seminars were offered throughout the year
- A Multifamily operations and maintenance training was offered to specifically target the property management of multifamily apartment complexes
- The Resource Lending Library loaned an estimated 500 books and tools including accessories; the number of users increased by more than 120 customers
- Over 5 trainings were offered to educate residential real estate professionals on the value of energy efficiency
- A targeted workshop on Compressed Air Systems was offered and approximately 26 business customers attended

B. SDGE3255 SW-WE&T – Career Connections

Program Description

The WE&T Career 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 Career 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. Students learn through online, hands-on and project-based activities that include what the Water-Energy Nexus is and why it matters, how solar energy is made, create working circuits, and more. Educators are also trained on how to incorporate energy education lessons to enhance their existing curriculum.

Challenges/Changes for 2020

SDG&E will be working with PG&E and other IOU's to launch a solicitation for third-parties in 2020. The current program will shut down by the end of 2020.

2019 Program Accomplishments

Approximately 11,900 students were reached at K-12 schools. Over 70% of the schools participating are Title-1, supporting opportunities for disadvantaged students. In 2019, approximately 40 student events were held at the Energy Innovation Center, bringing students onsite to learn about energy efficiency and green career awareness.

THIRD PARTY PROGRAMS

A. 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. In 2019, this generally hard-to-reach segment was provided a range of energy efficient measures at no cost to the customer.

Implemented Strategies

In 2019, 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 leads (customers exceeding eligibility requirements) provided through the Energy Savings Assistance (ESA) over-income monthly report, as well as, the newly enrolled Family Electric Rate Assistance (FERA) accounts monthly report. The program continued to operate via a Direct Install delivery mechanism which yielded little to no cost for customer participation. In so doing, in 2019 the MIDI program delivered a comprehensive mix of offerings ranging from Smart Programmable Thermostats, to AC Diagnostics, to Low flow showerheads to name a few to those households it did reach.

Challenges/Changes for 2020

Even with all of the aforementioned efforts for the MIDI program in 2019 the program struggled to penetrate SDG&E's single family market. This is mainly due to the income requirements placed on the program. Due to the lack of participation the MIDI program was sunset in 2019, and, therefore, will not be offered in 2020 as part of SDG&E's Energy Efficiency Portfolio. SDG&E is currently soliciting a new Residential Single Family offering aimed at addressing a variety of participation barriers while maintaining cost effectiveness and anticipates this program will launch in 2021.

2019 Program Accomplishments

While participation in the program was lower than ever before, the efforts made by the

MIDI program throughout 2019 still helped to raise program awareness with qualifying customers and further promoted the benefits of energy efficiency across SDG&E'S service territory. As a result, the MIDI programs reached approximately 86 single family households within SDG&E's service territory.

B. 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 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 continued to work with existing QM contractors to improve customer follow up and address post-contractor referrals.

Training materials, applications and inspection checklist forms were updated at the beginning of 2019 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.

Challenges/Changes for 2020

The program has historically had a low cost-effectiveness ratio, and therefore, was closed on June 30, 2019 due to poor program performance.

2019 Program Accomplishments

Although the program closed mid-year in 2019, this program helped to inform the statewide Midstream/Upstream HVAC program solicitation. The statewide

Midstream/Upstream HVAC solicitation was in the RFP phase at the end of 2019.

C. 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.

Implemented Strategies

In 2019, the third-party vendor continued with their 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. Verification Service Provider (VSP) standards were required to agree to program terms and conditions prior to providing services to program contractors.

Challenges/Changes for 2020

The program has historically had a low cost-effectiveness ratio, and therefore, was closed on December 31, 2019 due to poor program performance.

2019 Program Accomplishments

Although the program closed at the end of 2019, this program helped to inform the statewide Midstream/Upstream HVAC program solicitation. The statewide Midstream/Upstream HVAC solicitation was in the RFP phase at the end of 2019.

D. 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 2019 and continued the Water Energy Nexus initiative offering water and energy instant rebates though the partnership with Moulton Niguel Water District and the San Diego County Water Authority. Marketing collateral was developed and finalized in 2019. An email campaign and direct mail piece will be sent out in the first quarter of 2020 (SDG&E added the Pre-Rinse Spray Valve back into the Direct Install Program as a no-cost option on January 1, 2020).

A targeted outreach approach was discussed with SDG&E's outreach and partnerships team. In this proposed targeted outreach initiative one implementer will efficiently service a historically underserved city with one of the largest concentrations of hard-to-reach customers in partnership with the City of San Diego. The Direct Install offerings will be offered in conjunction rate optimization analysis and the City's Storefront Improvement Program for a truly comprehensive solution.

Challenges/Changes for 2020

A continued challenge for the Direct Install Program is that customers are still resistant to commit to the installation of measures with a co-pay and opt for the no-cost measures.

The City of San Diego has agreed to move forward with the targeted outreach initiative in conjunction with the City Council of San Ysidro and planning is currently underway.

SDG&E will continue to work with Moulton Niguel Water District and the San Diego County Water Authority and outreach efforts for the water-energy instant rebates with email campaigns and direct mail pieces to qualifying customers.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown.

2019 Program Accomplishments

In 2019 the Direct Install Program far exceeded its kWh goal, remaining well within the allocated budget. The Direct Install implementers successfully serviced over 3,000 SMB customers with the installation of energy efficiency projects, while also achieving a consistently high level of customer satisfaction.

F. Customer Services – Pump Test Services

1. 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. The program provides 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 for 2019.

Challenges/Changes for 2020

This program will be replaced by a statewide pilot program and was shut down at the end of 2019. Customer participation continues to be low in this sector.

2019 Program Accomplishments:

The industrial sector continues to be a challenge for SDG&E, as only commercial customers are enrolled in the WISE program. In 2019, there were no industrial customers that requested the pump test service.

2. 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.

Challenges/Changes for 2020

The industrial sector continues to be a challenge for SDG&E, as only commercial customers are enrolled in the WISE program. Customer Participation in this sector continues to be low. The program was shut down at the end of 2019. This program will be replaced by a statewide pilot program.

2019 Program Accomplishments

In 2019, there were no industrial customers that requested the pump test service.

3. 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. In 2019, 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.

Challenges/Changes for 2020

As previously stated for program SDGE3291, this program will be replaced by a statewide pilot program. The program was shut down at the end of 2019.

2019 Program Accomplishments

The contractor continued to assist customers with engineering support and project coordination for previously identified Energy Efficiency Business Incentives Program projects. Customers included the City of San Diego and the Olivenhain Municipal Water District. With the support of the contractor, customers began installation activities on approximately ten projects and completed approximately four projects in 2019.

G. SDGE3279 (3P) Res-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 within its service territory. An additional objective of the program is to heighten energy efficiency awareness with property owners, property managers and tenants. This is a targeted market that is not reached by statewide mass market programs but has shown rich potential for cost effective energy and demand savings. The residential CMMH Program offers a variety of incentives to motivate property owners and managers to install energy efficiency products. Furthermore, these products can be installed in both common areas and dwelling units of the complexes or parks.

Implemented Strategies

The CMMH Program continues to be successfully implemented as a one-touch customer approach serving manufactured and mobile home customers many of whom may be considered to be within hard-to-reach and disadvantaged customer demographics within the SDG&E service territory. The program implemented changes in 2019 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. For example, all of Climate Zone 7 was discontinued from the program as this climate zone simply did not yield deep enough savings to offer measures under the downstream direct install delivery channel that this program operated from. With this said, by operating via a Direct Install delivery mechanism the program yielded little to no cost for customer participation which allowed SDG&E to achieve the program's goal of maximizing ratepayer dollars while incentivizing the installation of energy efficient products within the residential multifamily market segment specific to manufactured-mobile homes.

Challenges/Changes for 2020

SDG&E will continue to take the aforementioned approaches to program management into 2020 so that the CMMH Program remains a viable option for energy efficiency offerings. Although, as deemed savings are ever-evolving SDG&E continues to analyze the different measures offered in the CMMH program. It was found that while this program currently has limited cost-effective offerings available, the more cost-effective measures such as T8 LED fixtures, low flow showerheads, and faucet aerators will still be available as reflected in the new updated statewide workpapers which should help to keep this program's offerings available to the customers it serves for the majority of 2020. In addition, SDG&E plans to leverage an opportunity for higher Net-to-Gross ratios within the Multi-Family Residential sector by collecting appropriate document source data for all "Hard-to-Reach" (HTR) participants during the upcoming program year(s). Other than this, program offerings for SDG&E's manufactured and mobile home customers will continue as the status quo for most of 2020, but per the Joint IOU Solicitation Timeline Schedule SDG&E anticipates a new Third-Party Implementer (TPI) by the end of Q4 2020.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown.

2019 Program Accomplishments:

In 2019 CMHH reached approximately 2,700 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. All of the efforts made throughout 2019 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.

H. 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. The program was 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

D.16-08-019 clarified that the new third party programs must be designed and presented to the utility program administrator by the third party; utilities may consult and collaborate, using their expertise, on the ultimate program design implemented by the third party. In 2018 SDG&E began the implementation of these solicitations which included setting up its EE Procurement Group, hiring of Independent Evaluators and developing best practices with other utilities. In 2019, SDG&E continued managing its Small Commercial, Large Commercial, Multifamily, and Statewide HVAC solicitations. In 2019 SDG&E issues the following solicitations, Statewide PLA, Residential Single Family, Federal Customer, and K-12.

Challenges/Changes for 2020

SDG&E expects to have signed contracts for its Small Commercial, Large Commercial, Multifamily, and Statewide HVAC solicitations by the end of 2020. SDG&E will have fully executed contracts for the Small Commercial, Large Commercial, Multifamily sectors to meet the Commission's requirement to have 25% of its portfolio implemented by third parties. The Statewide HVAC, Statewide PLA, and Residential Single Family contracts will be executed by the end of December 2020. These contracts would enable SDG&E to meet the Commission's requirement to have 40% of its portfolio implemented by third parties.

2019 Program Accomplishments

SDG&E continued to develop and launch Third Party solicitations, in accordance and compliance with Commission direction. SDG&E was among the first of the other California utilities to submit solicitations for both local and statewide third-party implemented programs to the marketplace. SDG&E developed internal processes and procedures, utilizing supply management best practices and an experienced team to ensure that all the guidelines and complex requirements of the Commission and the Energy Efficiency Procurement Review Group were met. SDG&E also continued to participate in a lead role on the statewide joint California utility solicitation team, ensuring input in statewide discussions with not only the Energy Efficiency Procurement Review Group, but the Independent Evaluators assigned across the state to monitor the solicitation process. The collaborative efforts, best practices and lessons learned from the process this year will continue to support and guide the third-party solicitation process into 2020 as SDG&E looks to successfully launch new local and statewide programs.

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

Program Description

The Energy Advantage Program (EAP) is a non-resource third party energy efficiency 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 program 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.

Implemented Strategies

The EAP program 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 the EAP program who are good candidates for,

and interested in, no cost energy efficiency support. The EAP program 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 that the program partners with. These leads can be referred to lenders for financing or referred to utility financing programs.

The EAP program educates stakeholders about the availability and benefits of various financing options and EAP program 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 EAP program, a range of no cost technical assistance is offered 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. The EAP program provides follow-up support services to help the customer implement projects and get incentives.

Challenges/Changes for 2020

With new programs being implemented in 2020 for commercial customers, this program was shut down at the end of 2019.

2019 Program Accomplishments

In 2019, approximately 50 business customers were enrolled into the program, including hotels and office buildings. Customers received technical support in the form of an onsite audit, customer support, and project implementation support. These customers participated in SDG&E's energy efficiency programs such as EEBR and BES.

J. 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.

The implementer regularly attends agricultural events and trade shows to network, promote the program and inform customers of the different offerings and services available to them.

Challenges/Changes for 2020

The Streamlined Ag Efficiency Program will continue through 2019 and the third party program implementer will continue to build and leverage the relationships mentioned above to add additional projects to its pipeline for this year.

In response to the COVID-19 global pandemic and in the interest of SDG&E employee, customer and contractor health and safety, on March 20, 2020 program activities requiring face-to-face interaction were suspended. At this time, the impact of such suspension on program participation and goal achievement in 2020 is unknown.

2019 Program Accomplishments

The SAE Program had 3 projects from previous years complete their installation in 2019, an additional deemed project in 2019 was completed, and 2 large projects were committed with signed proposals and are now in the installation phase.

1. SDGE4061 (3P) – Facility Assessment Services

Program Description

This 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

The Program was officially launched in late 2018 with multiple projects in the pipeline. The contractor leveraged existing relationships with nationwide chain accounts to reach local SDG&E chain customers. In addition to these chain accounts, the contractor engaged new customers such as the City of San Diego Public Library system and various San Diego area school districts. The Program will continue to expand with additional projects throughout 2020.

Challenges/Changes for 2020

A challenge for this program has been obtaining customer usage data in order to qualify customers for the program. The contractor's scope of work was modified for 2020 which will allow them to obtain customer interval energy usage data quicker. This change will permit the contractor to easily identify customers with the most opportunity for operational-based opportunities.

2019 Program Accomplishments

The program actively worked to engage customers resulting in approximately 20 new projects in 2019 and a robust project pipeline established for 2020. Mechanisms for tracking and reporting projects were established though a collaborative effort between the contractor and SDG&E staff.

PILOT PROGRAMS

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

Program Description

Proposition 39, the California Clean Energy Jobs Act of 2012 (Prop 39), provided up to $500 million per year to improve energy efficiency and increase the use of clean energy in public schools and community colleges. The Investor Owned Utility (IOU) Prop 39 Zero Net Energy (ZNE) Schools Retrofit Pilot (IOU Pilot) was developed to assist schools and community colleges in retrofitting existing facilities to ZNE by leveraging Prop 39 funding.

The main objectives of the program are:

1. Demonstrate the technical feasibility of ZNE retrofits in public K-14 schools statewide through 13-18 geographically and demographically diverse projects.
2. Disseminate lessons learned regarding the technical design process and the implementation process broadly throughout the state through training events, recognition awards, and publications.
3. Explore the feasibility of a larger-scale Program for future years.

Implemented Strategies

SDG&E selected two schools to implement the Prop 39 ZNE Pilot program. The goal is to implement the energy efficient measures identified in initial energy audits, to help the schools realize potential energy efficiency and demand response benefits, and aim to achieve a zero-energy bill for a full calendar year.

SDG&E accepted its first project in 2015 for Vista Grande Elementary School, which is part of the San Diego Unified School District. An ASHREA Level II energy audit identified the measures that needed to be addressed and an implementation plan was determined for the school. The two-story, 55,000 square foot facility needed energy efficiency upgrades throughout the building, which include; replacing interior and exterior lighting with LED's, HVAC controls and sensors, Chiller replacement, Thermal Energy Storage (TES) sequencing, Air Handler Unit (AHU) conversion to Variable Air Volume (VAV) box, new cool roof installation with roof insulation, and PV installation. The building upgrades are scheduled to be completed by the end

of 2020, followed by performance monitoring, data collection and analysis. At the end of the study, a final report will be compiled and shared with the public.

High Tech Middle North County (HTMNC) 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 completed its energy modeling and implemented energy efficiency measures that included upgrades to the building envelope, LED lighting for the interior and exterior, sensors and controls for Lighting and HVAC, an integrated economizer actuators, and updating their HVAC scheduling. The school also had two PV systems installed; a 30 kW DC system on its roof and a 56 kW DC system next to the adjacent High School. Both systems are directly connected to the HTMNC electrical service.

Challenges/Changes for 2020

The Prop 39 ZNE Pilot is a five-year program mandated by CPUC for 2015 to 2019. All program related activities were initially planned to be closed out at the end of 2019. However, due to several delays in school district approving the contractor selection, construction and installation of energy efficiency upgrades at Vista Grand were pushed out from summer 2019 to Q2, 2020. Current estimated completion date of the project is at the end of 2020.

HTMNC was able to complete their energy efficiency upgrades in 2017 as scheduled, and achieved the ZNE status for the first 12 month period. However, their performance has not been consistent. During 2019 the energy consultant identified two areas of concerns: a scheduling error for the HVAC system and occupancy sensors not working accurately. The resulted increase in HVAC usage could not be offset with their solar production. These errors are expected to be corrected to help achieve ZNE in the future.

2019 Program Accomplishments

The HTMNC project was completed successfully on time and on budget. Performance data collected onsite showed the school was able to achieve a net annual consumption of negative 139 kWh for a 12-month period, from December 2017 to December 2018. Although there has been small setbacks in performance due to HVAC scheduling errors, the school is expected to regain ZNE status in the future once the errors are corrected. This could qualify the school to apply for ZNE certification. The final measurement & verification (M&V) report has

been completed and will be shared with the public. The report documents positive results and recommendations that could offer useful insights and help inform the design, development and implementation of similar ZNE projects and programs..

HIGH OPPORTUNITY PROJECT OR PROGRAMS (HOPPS)

A. 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 that ended in 2016.

Implemented Strategies

In 2019, the RCx Program focused on increasing and refining outreach and recruitment, continuing with implementation and project management, and executing on all details of measurement and verification activities.

At the start of the year, the program had three projects under active implementation and six projects with 2018 install dates that were scheduled for tracking and evaluation to review persistence of savings. The six projects installed in 2018 achieved scheduled milestones throughout 2019 wherein the program identified and reviewed non-routine events and any deviations from expected savings levels. At completion of the first year for each installed project, the implementer met with the customer for the second time to share the draft first year modeled savings with the customer, and discuss results of the customer completed maintenance log. Following this meeting the implementer finalized the whole building model based on customer input. Furthermore, the implementer worked together with customers to troubleshoot and correct any measure issues if applicable to get the savings back on track in a timely manner.

Throughout 2019, the program concentrated on outreach efforts to build a robust pipeline representing a variety of building types including healthcare, office space, hotels/resorts, correction facilities and more and developing projects to be completed in 2019 and 2020. Of the

thirteen screened by the implementer, five were approved to proceed after detailed assessment and analysis.

All RCx customers received support with detailed technical assistance, guidance on coordinating installation activities with contractors, and general project management. This included regular in-person and teleconference meetings to track progress, and communication directly with trade-allies, engineering providers and customers. For the three projects that were completed in 2019, the program provided services for verification of implementation through onsite inspections and short-term trending, support making necessary adjustments to savings calculations, and facilitation of training for every customer and their employees on requisite maintenance activities to ensure persistent savings.

In addition to the three projects completed in 2019, two projects moved from the investigation stage into implementation and five projects moved beyond the initial screening phase into the early investigation stage. All five of these projects are on track to complete implementation in 2020.

In 2020, the program will have seven active projects slated for completion and submission by November 2020, and nine projects for monitoring and evaluation as they conclude their one-year and two-year post-installation dates.

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 SDG&E's third party implementer 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. SDG&E 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, SDG&E anticipates 2020 to include a focus on continued project identification to include long term monitoring, measurement and maintenance of savings.

Challenges/Changes for 2020

As a result of an internal audit that the program underwent in 2019, a few specific process improvements will be made in 2020. These updates will include an additional quality assurance step when collecting building information that impacts incentive levels, updates to the quality assurance and quality control (QA/QC) plan to ensure proper alignment with how the HOPPs program has evolved, and an additional layer of approval added to the site selection process.

A challenge the program faces moving into 2020 is ensuring all that projects are completed by November 2020. The program may need to outperform the current average lifecycle to meet deadlines. Increased project management support along with enforcement of stricter timelines will help keep projects on track.

2019 Program Accomplishments

The program exceeded kWh energy savings goals and continued to build a robust project pipeline to support continuation of strong energy savings performance into 2020. Additionally, the program succeeded in demonstrating the persistence of kWh savings. All projects that completed their one-year post-install savings verification in 2019 showed slightly higher kWh savings than was projected at the installation stage.

In addition, the international Building Commissioning Association (BCxA) awarded an RCx HOPPs program participant the 2019 Building Award for Existing Building Commissioning. Customers completing projects in 2019, expressed high levels of satisfaction with the program. Customers also acknowledged the additional continued benefits to their organizations resulting from staff education and awareness.

B. 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. This pilot program concluded in 2018.

Evaluation of the program requires a 12-month post consumption analysis. Data collection was completed in 2019. Evaluation of the program has been ongoing and should be completed in 2020. SDG&E is currently finalizing the methodology and results of normalized metered energy consumption (NMEC) for Multifamily HOPPs. The evaluation of the Multifamily HOPPs focuses on 41 multifamily properties that began participation between August 2017 and December 2018. During this time period, each site had one or more of the following energy conservation measures (ECMs) installed: LED fixtures, variable speed pool pumps, and high-efficiency boilers.

C. 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.[3] 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.

[3] The California Water Plan is available https://water.ca.gov/Programs/California-Water-Plan.

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."[4]

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.[5]

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.[6] This decision also set the requirements for the IOUs to report WEN activities beginning with the 2016 Energy Efficiency Annual Reports due in 2017.[7]

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."[8]

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.[9]

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[4] *Decision Granting petition and Opening Rulemaking*, December 30, 2013 is available at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M084/K481/84481715.PDF.
[5] *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.
[6] *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.
[7] *Id*. at 21.
[8] *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.
[9] *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.

2019 Program Accomplishments:

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

In 2019, SDG&E as the lead utility worked with the IOUs to update the WEN statewide workpapers for deemed measures offered by the IOUs and Metropolitan Water District (MWD). The updated workpaper corrected savings for MWD commercial large rotary nozzle savings, MWD outdoor measures were updated from urban to agricultural sector and typos on naming on worksheets. The current statewide workpaper provides savings for 110 WEN measures.

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, SDG&E and SDCWA developed and implemented joint water energy programs that save both water and energy and provide water and energy rebates. In 2019, planning and implementation focused on a Commercial Direct Install Food Service offering; a Multifamily Direct Install offering, a Mobile Home Direct Install offering, and an offering within the Low-Income Program. The Low-Income update will be provided in the 2019 Low-Income Annual Report.

More details about these initiatives can be found in the Local Institutional Partnership - San Diego County Water Authority program section.

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. In 2019, the AMI WEN Pilot Final Report was completed and submitted to the CPUC.

WEN Programs and Activities

In 2019, SDG&E and Moulton Niguel Water District (MNWD) implemented a targeted small and medium-sized customer with commercial kitchens like the SDCWA initiative. The offer provided additional funding from MNWD to reduce customer co-pays was for the installation of steam cookers, ice machines, aerators, and pre-rinse spray valves through the Business Energy Solutions program. By combining the water and energy incentives, customers received a reduced co-pay at the time of installation for the water and energy saving measures. In addition, educational materials provided to customers included information on water-use efficiency.

In addition, on Oct 30th, SDG&E staffed a booth at the SDCWA Employer Wellness Outreach Fair. SDG&E staff provided information Energy Efficiency, Demand Response, Electric Vehicles, Time-of-Use, Energy Innovation Center classes and Fire and safety preparedness.

WEN Programs Energy and Water Savings

The table below reflects the 2019 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**

OTHER ENERGY EFFICIENCY ACTIVITIES AND PROGRAMS

A. SDGE3259 SW-ME&O

Program Description

The Statewide Marketing, Education, and Outreach (ME&O) Program is implemented by a Statewide Administrator across all CA IOU's. 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. The statewide administrator and implementer of this campaign submits the Annual Report (known as the Joint Consumer Action Plan or JCAP), which tracks the program 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 the Statewide Administrator and the IOUs at the EUC quarterly stakeholder meetings, regular calls, joint community events, 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.

Challenges/Changes for 2020

In 2020, EE strategy will refocus on inspiring and empowering communities to Keep California Golden through collective energy action through an updated Joint Consumer Action Plan to be filed by May 11, 2020.

2019 Program Accomplishments

Per the Statewide Administrator, "Keep it Golden" aided awareness rose from 30%-39%, meeting the goal of 35%-42% and significantly exceeded Y2-aided awareness, rising from 30% to 39%. EUC-aided awareness rose from Y2 to 52%. A shift in consumer motivation rose to 83%, meeting the 81-83% goal. What this means is the majority of Californians intend to change their daily routines to become more energy efficient (77%), remaining stable vs. Y2.

B. SDGE3281 EM&V – Evaluation Measurement and Verification

EM&V activities are designed to 1) inform the program selection process, 2) provide early feedback to program implementers, 3) produce impact evaluations at the end of the funding period, and 4) feedback into the planning process for future program cycles.

SDG&E participated in the development of the statewide EM&V roadmap that outlines the various EM&V projects that both Commission's Energy Division and utilities will manage in 2019. SDG&E managed or participated in statewide studies through the various Project Coordinating Groups (PCGs) that support these studies. SDG&E also conducted several evaluations for its own local programs as outlined in the EM&V roadmap.,

C. Statewide Finance Pilots

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. SDG&E provides support for these pilots under the following program categories: SDGE3264 SW-FIN-New Fin Offerings - CHEEF & Funds Reserved; SDGE3308 SW-Finance ME&O, SDGE3312 SW-FIN – New Finance Offerings – Finance Pilot IT Support, SDGE3325 SW-FIN – Finance Pilots – SDG&E Administration.

Implemented Strategies

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. 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.

2019 Program Accomplishments

In 2019, participating lenders funded approximately 55 projects in SDG&E's service territory, with a combined project cost of over $275,000.

D. Energy Atlas

Project Description

The Energy Atlas is a tool or database of building energy consumption that links utility

account information to building characteristics, socio-demographic data, and other significant attributes that can be expressed spatially. The public portion of the Energy Atlas is a front-end website which displays spatially aggregated energy consumption statistics at an annual temporal resolution for most neighborhoods, cities, and counties in Southern California.

2019 Accomplishments

Southern California Edison (SCE) has been assigned as the lead to administer a contract with the University of California Los Angeles (UCLA) Center for Sustainability for the maintenance and operational cost for the Energy Atlas Tool. Due to the length of time needed to negotiate the terms and conditions for the contract purchase order, SCE made two payments to UCLA (for November and December of 2019) totaling $50,000 through our standard non-purchase order payment process. Since then, SCE has successfully executed the contract and will use the standard purchase order process for payments to UCLA on a monthly basis from January through December of 2020, totaling $300,000. This will allow the Energy Atlas tool to continue to operate while a new tool named CATALENA (see ***Page 112,*** below) is under construction. This cost will be funded by the Investor Owned Utilities (IOUs) based on an agreed-upon cost sharing percentage approved in SCE Advice Letters 3859-E and 3859-E-A.

In D.18-05-041, the Commission directed the IOU Program Administrators[1] (PAs) to select a lead to oversee the statewide deployment of the Energy Atlas and competitively solicit a third party to implement the deployment, maintain data quality, consistency and security, continue development of the Energy Atlas's capabilities, and encourage and support local governments that choose to participate. With the concurrence of the other IOUs, SCE will be the lead overseeing the statewide deployment of the Energy Atlas, and will confer with the other IOU PAs in the management of the contract. D.18-05-041 also directs the IOU PAs to:

- Allocate up to $2 million to expand Energy Atlas, and
- Include annual Energy Atlas management and maintenance costs in their annual budget advice letters, in proportion to their relevant energy efficiency programs.

[1] SCE, Pacific Gas & Electric (PG&E) Company, San Diego Gas & Electric (SDG&E) Company, and Southern California Gas (SoCalGas) Company.

E. California Analysis Tool for Locational Energy Assessment (CATALENA)

Project Description

As directed in CPUC Decision D.18-05-041, OP 32, the Investor Owned Utilities (IOUs), led by SCE, continued developing the scope of work for the development and implementation of the California Analysis Tool for Locational Energy Assessment (CATALENA).

The CATALENA website and database system is envisioned as giving users access to aggregated energy use profiles of residential, commercial, industrial, and agricultural customers within the IOUs' service territories. CATALENA would also combine energy use data with other relevant information, such as:

- Energy efficiency program deployment
- Electric vehicle and charging station data
- Behind-the-meter solar and storage capacity, and
- Other relevant public data.

The system would display the data through graphs, charts, and (potentially) an interactive map.

2019 Accomplishments

To ensure the CATALENA tool meets the needs of the intended audience, the Working Group engaged in the following activities:

- Held a project update webinar on October 29, 2019
- Held individual stakeholder meetings in November, 2019, and
- Conducted a stakeholder survey on prioritizing tool features from November 1, 2019 to January 15, 2020.

In 2020, in conjunction with the IOU/REN (Regional Energy Network) working group, SCE plans to launch a Request for Proposals (RFP) to identify a project developer that will design, implement, and maintain the CATALENA website and database.

APPENDIX A

ANNUAL REPORT TABLES

The Excel workbook SDGE.AnnualExcel.2019.1.xlsx is available at http://eestats.cpuc.ca.gov/Views/Documents.aspx

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 2019 program year. The annual impacts are reported for 2019 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.)

Table 1
Electricity and Natural Gas Savings and Demand Reduction (Net)

Annual Results		2019 Installed Savings (1)	CPUC 2019 Adopted Goals (D.17-09-025)	% of Goals (2019)
2019 Energy Savings (GWh) – Annual				
	SDG&E	243	220	110%
TOTAL Energy Savings (GWh) - Annual				
2019 Energy Savings (GWh) – Lifecycle				
	SDG&E	2,562		
TOTAL Energy Savings (GWh) – Lifecycle				
2019 Natural Gas Savings (MMth) – Annual				
	SDG&E	3.27	3.60	91%
TOTAL Natural Gas Savings (MMth) – Annual				
2019 Natural Gas Savings (MMth) – Lifecycle				
	SDG&E	30.78		
TOTAL Natural Gas Savings (MMth) – Lifecycle				
2019 Peak Demand savings (MW)				
	SDG&E	53	47	113%
TOTAL Peak Demand savings (MW)				

Note:
(1) As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

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 2019 program year. Parties agreed that the impacts should be in terms of annual and lifecycle tons of CO2, NOx, and PM10 avoided and should come from the E3 calculator.

Table 2

Environmental Impacts (Net)

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
SDG&E	179,029	1,961,405	14	162	8	86
2019 Total	**179,029**	**1,961,405**	**14**	**162**	**8**	**86**

Note:

(1) As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

(2) Conversion methodology for CO2 from EPA calculator located at: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

SECTION 3 - EXPENDITURES

The purpose of Table 3 is to report the annual costs expended by SDG&E in implementing the 2019 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 (subcomponent 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.

Table 3 - 2019 Expenditures (Including Expenditures on Past Cycle Commitments paid in 2019)

IOU	ProgramID	ProgramName (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		Total 2019 Expenditures (broken out by budget-year funding source)												On Bill Financing Loan Pool
									Administrative				Direct Implementation				PA Administered M&O		SW M&O	EM&V	
									Non-IOU Implementer		IOU		Non-Incentive		Incentives & Rebates						
							2019 Approved Budget (EE: AL 3267-A-E) (SW ME&O: AL 3125-E/2615-G, AL 3451-E/2818-G) ESA AL 3065-E/2568-G)	2019 Administrative Cost (forecast as per budget Advice Letters)	2019 Expenditures from pre-2019 budgets (3)	2019 Expenditures from 2019 Budget (3)	2019 Expenditures from pre-2019 budgets (3)	2019 Expenditures from 2019 Budget (3)	2019 Expenditures from pre-2019 budgets (3)	2019 Expenditures from 2019 Budget (3)	2019 Expenditures from pre-2019 budgets (3)	2019 Expenditures from 2019 Budget (3)	2019 Expenditures from pre-2019 budgets (3)	2019 Expenditures from 2019 Budget (3)		2019 Expenditures from pre-2019 budgets (3)	2019 Expenditures from 2019 Budget (3)	
		IOU/PA Programs					71,592,690	4,473,306	-	121,564	-	3,337,857	95,491	20,390,141	747,230	14,216,176		2,418,979				
	3201	SW-CALS-Energy Advisor-HERS, UAT	IOU	Residential	Resource		329,694	53,589		-		10,699	-	64,750	-	-		2,734				
	3203	SW-CALS-Plug Load and Appliances-HEER	IOU	Residential	Resource	Downstream	1,874,593	103,834		-		66,008	-	441,503	-	223,200		646,898				
	3204	SW-CALS-Plug Load and Appliances-POS Rebates	IOU	Residential	Resource	Midstream	3,574,049	207,423		-		129,146	-	662,304	-	547,450		450,181				
	3205	SW-CALS-Plug Load and Appliances-BCE	IOU	Residential	Resource		-	-		-		-	-	-	-	-		-				
	3207	SW-CALS-MFEER	IOU	Residential	Resource	Downstream	1,926,246	106,588		60,974		83,628	-	1,953,084	-	-		119,294				
	3208	SW-CALS - BUC WHRP - Basic	IOU	Residential	Resource		-	-		-		-	-	-	-	-		-				
	3209	SW-CALS - BUC WHRP - Advanced	IOU	Residential	Resource	Downstream	1,579,722	166,630		144		85,798	-	458,799	-	282,041		2,997				
	3210	SW-CALS - BUC WHRP - Multifamily	IOU	Residential	Resource		-	-		-		-	-	-	-	-		-				
	3213	SW-CALS - CAHP/ESMH-CA Advanced Homes	IOU	Residential	Resource	Upstream	1,588,717	99,361		-		34,678	-	162,081	247,690	313,800		1,678				
	3214	SW-CALS - CAHP/ESMH-EStar Manufactured Homes	IOU	Residential	Resource		-	-		-		-	-	-	-	-		-				
	3215	SW-COM-Strategic Energy Management	IOU	Commercial	Resource		-	-		-		-	-	-	-	-		-				
	3216	SW-COM-Customer Services-Benchmarking	IOU	Commercial	Resource		60,709	8,009		-		3,825	-	26,501	-	-		981				
	3217	SW-COM-Customer Services - Audits NonRes	IOU	Commercial	Resource		1,528,992	294,686		-		53,734	-	751,300	-	-		981				
	3220	SW-COM-Calculated Incentives-Calculated	IOU	Commercial	Resource	Downstream	14,532,193	655,926		-		399,072	-	876,308	348,890	455,059		25,383				
	3222	SW-COM-Calculated Incentives-Savings by Design	IOU	Commercial	Resource	Upstream	3,117,821	206,445		-		161,501	-	534,523	150,650	1,017,388		5,939				
	3223	SW-COM-Deemed Incentives-Commercial Rebates	IOU	Commercial	Resource	Downstream	12,639,754	678,893		-		463,573	-	992,999	-	3,047,494		127,041				
	3225	SW-COM-Deemed Incentives-HVAC Core	IOU	Commercial	Resource		278,035	31,312		-		17,126	-	61,013	-	-		-				
	3227	SW-IND-Strategic Energy Management	IOU	Industrial	Resource		1,651,531	76,161		7,693		67,060	-	415,05	-	-		2,887				
	3228	SW-IND-Customer Services-Benchmarking	IOU	Industrial	Resource		10,819	3,692		-		736	-	6,094	-	-		-				
	3229	SW-IND-Customer Services-Audits NonRes [5]	IOU	Industrial	Resource		462,785	35,075		-		16,475	-	326,720	-	-		981				
	3231	SW-IND-Calculated Incentives-Calculated	IOU	Industrial	Resource	Downstream	732,343	71,995		-		100,814	-	233,264	-	16,962		4,306				
	3233	SW-IND-Deemed Incentives	IOU	Industrial	Resource	Downstream	662,197	66,457		-		46,271	-	257,075	-	165,689		4,541				
	3234	SW-AG-Customer Services-Benchmarking	IOU	Agricultural	Resource		38,292	4,835		-		2,804	-	18,269	-	-		1,901				
	3236	SW-AG-Customer Services-Audits	IOU	Agricultural	Resource		107,217	13,538		-		4,096	-	11,452	-	-		490				
	3237	SW-AG-Calculated Incentives-Calculated	IOU	Agricultural	Resource	Downstream	449,864	26,109		-		21,616	-	55,263	-	35,374		4,940				
	3239	SW-AG-Deemed Incentives	IOU	Agricultural	Resource	Downstream	377,281	20,307		-		26,416	-	99,061	-	100,052		16,048				
	3240	SW-Lighting-Lighting Market Transformation	IOU	Cross Cutting	Resource		99,368	23,485		-		1,124	-	1,316	-	-		12,278				
	3241	SW-Lighting-Lighting Innovation-ETPC MD	IOU	Cross Cutting	Resource		-	-		-		(6)	-	(350)	-	-		-				
	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 Exchange	IOU	Cross Cutting	Non-Resource					-		-	-	-	-	-		-				
	3245	SW-Lighting-Primary Lighting	IOU	Cross Cutting	Resource	Upstream	7,888,358	333,279		-		258,667	-	(37,509)	-	7,514,121		1,539				
	3246	SW-ET-Technology Introduction Support	IOU	Cross Cutting	Non-Resource		429,647	26,559		-		17,619	-	348,822	-	-		-				
	3247	SW-ET-Technology Assessment Support [5]	IOU	Cross Cutting	Non-Resource		720,698	44,551		-		45,213	-	1,102,892	-	-		-				
	3248	SW-ET-Technology Deployment Support [5]	IOU	Cross Cutting	Non-Resource		235,613	14,563		-		9,900	-	204,828	-	-		-				
	3249	SW-C&S - Building Codes & Compliance Advocacy	IOU	Cross Cutting	C&S		258,552	13,686		-		15,365	65,092	332,556	-	-		-				
	3250	SW-C&S - Appliance Standards Advocacy	IOU	Cross Cutting	C&S		303,517	16,067		-		13,935	-	215,186	-	-		-				
	3251	SW-C&S - Compliance Enhancement	IOU	Cross Cutting	C&S		312,263	30,641		-		17,996	-	297,719	-	-		-				
	3252	SW-C&S - Reach Codes	IOU	Cross Cutting	C&S		182,153	17,874		-		5,017	-	131,232	-	-		-				
	3253	SW-C&S - Planning Coordination	IOU	Cross Cutting	C&S		156,131	15,321		-		4,207	-	100,852	-	-		-				
	3254	SW-WE&T-Centergies	IOU	Cross Cutting	Non-Resource		4,170,801	446,365		(884)		654,316	4,804	2,640,850	-	-		303,540				
	3255	SW-WE&T-Connections	IOU	Cross Cutting	Non-Resource		782,979	68,267		53,608		25,659	-	657,134	-	-		22,256				
	3257	SW-WE&T-Strategic Planning	IOU	Cross Cutting	Non-Resource		-	-		-		-	-	-	-	-		-				
	3260	Local-IDSM-ME&O-Local Marketing (EE)	IOU	Cross Cutting	Non-Resource		2,415,429	108,429		0		112,651	25,595	385,947	-	-		643,389				
	3261	Local-IDSM-ME&O-Behavioral Programs (EE)	IOU	Residential	Resource	Downstream	4,701,081	221,578		-		163,482	-	4,899,232	-	-		10,722				
	3262	SW-FINOn-Bill Finance	IOU	Commercial	Resource		376,716	49,889		-		40,062	-	172,502	-	-		92				
	3282	SW-IDSM-IDSM	IOU	Cross Cutting	Non-Resource		455,014	81,804		-		76,562	-	154,259	-	-		-				
	3288	CRM	IOU	Cross Cutting	Non-Resource					-		-	-	-	-	-		-				
	3293	SW-CALS - Residential HVAC-HVAC Core	IOU	Residential	Resource		227,775	28,851		-		30,432	-	30,373	-	-		-				
	3302	RES Upstream HVAC Incentive Program	IOU	Residential	Resource	Upstream	353,742	21,230		-		63,583	-	340,080	-	497,456		4,739				
	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					9,060,788	848,939	-	362,303	-	508,474	2,013,721	6,674,123	-	-	-	117,464				
	3266	LInstP-CA Department of Corrections Partnership	LGP/SIP	Public	Resource		102,019	30,968		432		14,112	-	54,186	-	-		-				
	3267	LInstP-California Community College Partnership	LGP/SIP	Public	Resource		206,341	68,325		65,778		(49,795)	-	43,459	-	-		465				
	3268	LInstP-UC/CSU/IOU Partnership	LGP/SIP	Public	Resource		415,792	73,030		19,513		22,360	-	77,532	-	-		-				
	3269	LInstP-State of California /IOU	LGP/SIP	Public	Resource		130,728	24,414		-		13,939	-	58,046	-	-		-				
	3270	LInstP-University of San Diego Partnership	LGP/SIP	Public	Resource		664,724	51,579		7,664		33,772	136,598	347,405	-	-		22,246				
	3271	LInstP-San Diego County Water Authority Partnership	LGP/SIP	Public	Resource		436,405	58,297		-		34,783	-	127,641	-	-		-				
	3272	LGP- City of Chula Vista Partnership	LGP/SIP	Public	Resource		1,784,156	108,294		103,337		106,904	257,508	1,528,363	-	-		31,230				
	3273	LGP- City of San Diego Partnership [5]	LGP/SIP	Public	Resource		1,707,957	117,043		45,343		111,760	393,250	1,274,368	-	-		21,636				
	3274	LGP- County of San Diego Partnership	LGP/SIP	Public	Resource		1,150,179	94,200		3,503		67,914	262,786	1,292,079	-	-		50,046				
	3275	LGP- Port of San Diego Partnership	LGP/SIP	Public	Resource		827,831	64,555		100,537		60,863	326,452	532,262	-	-		14,897				
	3276	LGP- SANDAG Partnership	LGP/SIP	Public	Resource		1,100,640	82,934		33,156		64,304	637,068	1,016,070	-	-		16,190				
	3277	LGP- SEC Partnership [5]	LGP/SIP	Public	Resource		250,873	33,355		(16,520)		3,887	-	107,722	-	-		(41,085)				
	3278	LGP- Emerging Cities Partnership	LGP/SIP	Public	Resource		283,143	41,946	-	-		19,671	-	214,790	-	-		1,859				
		Third Party Programs					21,354,127	933,339	-	108,973	-	874,391	220,748	12,130,508	34,780	1,505,800	-	358,181				
	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	193,589	4,295		1,541		7,286	-	61,768	-	-		9,328				
	3212	SW-CALS - Residential HVAC-QIQM	Third Party	Residential	Resource	Downstream	1,719,904	144,060		17,668		105,081	-	227,198	-	142,174		108,029				
	3218	SW-COM-Customer Services-Audits Healthcare Energy Efficiency (HE	Third Party	Commercial	Resource		-	-		-		-	-	-	-	-		-				
	3219	SW-COM-Customer Services-Audits Lodging Energy Efficiency (LEEI	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	2,982,621	140,744		-		123,445	-	1,165,798	-	1,207,955		60,067				
	3226	SW-COM-Direct Install	Third Party	Commercial	Resource		9,861,941	275,086		-		349,630	-	6,537,302	-	108,059		31,908				
	3230	SW-IND-Customer Services-Audits CIEEP	Third Party	Industrial	Resource		-	-		-		-	-	0	-	-		-				
	3235	SW-AG-Customer Services-Pump Test Services	Third Party	Agricultural	Resource		-	-		-		-	-	0	-	-		-				
	3256	SW-WE&T-Connections K-12	Third Party	Residential	Non-Resource		-	-		-		-	-	-	-	-		-				
	3279	3P-Res-Comprehensive Manufactured-Mobile Home	Third Party	Residential	Resource	Downstream	921,622	30,971		24,202		45,207	-	973,384	-	-		57,558				
	3280	3P-IDEEA	Third Party	Cross Cutting	Resource		2,589,310	222,728		-		112,834	-	1,162,109	-	-		44,136				
	3291	SW-Ind-Customer Services-Pump Test Services	Third Party	Industrial	Resource		211,024	2,713		-		10,768	-	70,158	-	-		-				
	3292	SW-Com-Customer Services-Pump Test Services	Third Party	Commercial	Resource		375,154	4,823		-		14,139	101,920	187,714	-	-		-				
	3306	3P-RSI-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		546,377	72,080		50,100		12,625	-	371,682	-	-		2,450				
	3317	HOPPs - Building Retro-Commissioning	Third Party	Commercial	Resource	Downstream	1,583,225	38,699		1,701		60,612	-	1,108,266	-	22,599		16,186				
	3318	HOPPs - Multi Family	Third Party	Residential	Resource	Downstream	-			-		29	-	(7,501)	-	-		-				
	3319	HOPPs - BHS – To Code LED Fixtures	Third Party	Commercial	Resource		-															
	3322	STREAMLINED ASSET EFFICIENCY (SAE) PROM	Third Party	Agricultural	Resource		369,361	25,142		13,320		18,998	118,828	179,170	-	29,013		26,073				
	3323	MID-MKT DYNAMIC BE PROGRAM	Third Party	Commercial	Resource		-	-		-		-	-	-	-	-		-				
	4061	Facility Assessment Services [5]	Third Party	Commercial	Resource		-	-		442		10,736	-	93,720	34,780	-		2,456				
		RENs and CCA (Non-IOU Programs)																				
		Subtotal					**102,007,605**	**6,295,584**	-	**592,840**	-	**4,716,723**	**2,329,960**	**39,194,772**	**782,010**	**15,721,976**		**2,894,624**				
		EM&V - IOU																			2,217,554	
	3281	EM&V - CPUC Staff					4,658,311	4,658,311												1,848,516		
		OBF Loan Pool					26,003,565															$ 358,387
		Total EE Portfolio Expenditures					**132,669,481**	**10,953,895**	-	**592,840**	-	**4,716,723**	**2,329,960**	**39,194,772**	**782,010**	**15,721,976**	-	**2,894,624**	-	**1,848,516**	**2,217,554**	
	3259	SW ME&O (Energy Efficiency portion only)					3,228,335			-		37,320		-				1,918,262				
		Energy Savings Assistance Program (ESA)																				
	3324	Water Energy Nexus [2]					-			-		-	47,399	47,908								
		Finance Pilots [4]					6,800,749		-	-	13,429	(0)	808,562	(0)	-	-	226,716	0				

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 "2019 Expenditures from 2019 Budget".
[4] Financing Pilots Budget- Include $5,752,042 of carry over balance from 2017 and $500,000 of approved budget for 2019 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.
[5] Please note that the programs listed below booked expenses in the month April 2020 related to 2019 cycle.
The total expense was not included in this table from the detail reported as part of T-3 of the EE Annual Report and the detail is described below:

Program ID	Program Name	Admin	Marketing/Outreach	Direct Implementation	Grand Total
3229	SW-IND-Customer Services-Audits NonRes [5]			$38,138 O	$38,138 O
3247	SW-ET-Technology Assessment Support [5]			$44,506 O	$44,506 O
3248	SW-ET-Technology Deployment Support [5]			$12,500 O	$12,500 O
3273	LGP- City of San Diego Partnership [5]	($40,000) U		($138,800) U	($178,800) U
3277	LGP- SEEC Partnership [5]	($577) U	($124) U	($18,884) U	($19,584) U
4061	Facility Assessment Services [5]	($5,651) U	($1,884) U	($37,492) U	($45,027) U
	Grand Total	**($46,228) U**	**($2,008) U**	**($100,031) U**	**($148,267) U**

"O"- Over
"U"- Under

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 2019 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 ($/kW)[2]	PAC Cost per kWh Saved ($/kWh)	PAC Cost per therm Saved ($/therm)[3]
SDG&E 2019	$ 161,933,142	$ 187,837,378	$ 25,904,236	1.16	$ 73,875,037	2.54		0.04	0.39
TOTAL									

Notes:

(1) As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

(2) The adopted avoided cost methodology does not provide information to provide a meaningful value for PAC Cost per kW.

(3) 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

2019	Electric Average Rate (Res and Non-Res) $/kwh	Gas Average Rate (Core and Non-Core) $/therm	Average First Year Bill Savings ($) [1]	Average Lifecylce Bill Savings ($) [1]
[PA] Average	$0.246	$1.412	$64,017,136	$ 673,503,074
[PA] Average	$0.246	$1.412	$64,017,136	$ 673,503,074

Note:

[1] As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

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-2019 advocacy work.

Table 6

Annual Net Savings By Use Category 2019 (1)

Use Category	GWH	% of Total	MW	% of Total	MMTh	% of Total
Appliance or Plug Load	24.42	10.07%	3.56	6.70%	0.27	8.40%
Building Envelope	4.31	1.77%	0.75	1.41%	0.13	3.89%
Compressed Air	0.63	0.26%	0.01	0.01%	0.00	0.00%
Commercial Refrigeration	3.76	1.55%	0.63	1.19%	-0.01	-0.34%
Codes & Standards	6.29	2.59%	0.80	1.51%	0.00	0.00%
Food Service	0.06	0.02%	0.01	0.02%	0.01	0.25%
HVAC	22.93	9.45%	8.68	16.35%	0.36	11.05%
Irrigation	0.00	0.00%	0.00	0.00%	0.00	0.00%
Lighting	102.02	42.05%	18.74	35.32%	-0.50	-15.22%
Non-Savings Measure	0.00	0.00%	0.00	0.00%	0.00	0.00%
Process Distribution	0.19	0.08%	0.01	0.02%	0.00	0.00%
Process Drying	0.00	0.00%	0.00	0.00%	0.00	0.00%
Process Heat	0.15	0.06%	0.03	0.05%	0.04	1.17%
Process Refrigeration	0.01	0.01%	0.00	0.00%	0.00	0.00%
Recreation	3.10	1.28%	0.65	1.22%	0.00	0.03%
Service	0.00	0.00%	0.00	0.00%	0.00	0.00%
Service and Domestic Hot Water	4.68	1.93%	0.25	0.48%	1.16	35.53%
Whole Building	70.06	28.88%	18.95	35.71%	1.80	55.23%
ANNUAL PORTFOLIO SAVINGS	**243**	**100.00%**	**53**	**100.00%**	**3.27**	**100.00%**

Note:

(1) As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

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	**$ 1,168,190.35**	**-**	**-**	**-**
Codes & Standards	**$ -**	**-**	**-**	**-**
[PA] Total	**$ 1,168,190.35**	**-**	**-**	**-**

Commitments Made in the Past Year with Expected Implementation after December 2013-2015

	Committed Funds[2]	Expected Energy Savings		
2013-2015[2,4]	**$**	GWH	MW	MMth
Resource	**$ 6,157,042.64**	**-**	**-**	**-**
Non-Resource	**$ 1,055,469.99**	**-**	**-**	**-**
Codes & Standards	**$ 277,298.80**	**-**	**-**	**-**
[PA] Total	**$ 7,489,811.43**	**-**	**-**	**-**

Commitments Made in the Past Year with Expected Implementation after December 2016

	Committed Funds [3]	Expected Energy Savings		
2016[3]	**$**	GWH	MW	MMth
Resource	**152,008**	**0.27**	**0.06**	**0.01**
Non-Resource	**3,875,982**	**-**	**-**	**-**
Codes & Standards	**-**	**-**	**-**	**-**
[PA] Total	**$ 4,027,989.82**	**0.27**	**0.06**	**0.01**

Commitments Made in the Past Year with Expected Implementation after December 2017

	Committed Funds [3]	Expected Energy Savings		
2017[3]	**$**	GWH	MW	MMth
Resource	**$ 931,576.77**	**3.76**	**1.11**	**0.05**
Non-Resource	**$ 3,860,263.53**	**-**	**-**	**-**
Codes & Standards	**$ -**	**-**	**-**	**-**
[PA] Total	**$ 4,791,840.30**	**3.76**	**1.11**	**0.05**

Commitments Made in the Past Year with Expected Implementation after December 2018

	Committed Funds [3]	Expected Energy Savings		
2018[3]	**$**	GWH	MW	MMth
Resource	**$ 1,855,238.64**	**3.40**	**0.26**	**0.02**
Non-Resource	**$ 3,759,665.31**	**-**	**-**	**-**
Codes & Standards	**$ -**	**-**	**-**	**-**
[PA] Total	**$ 5,614,903.95**	**3.40**	**0.26**	**0.02**

Commitments Made in the Past Year with Expected Implementation after December 2019

	Committed Funds [3]	Expected Energy Savings		
2019[3]	**$**	GWH	MW	MMth
Resource	**$ 6,551,489.23**	**18.40**	**2.82**	**0.42**
Non-Resource	**$ 4,991,088.22**	**-**	**-**	**-**
Codes & Standards	**$ -**	**-**	**-**	**-**
[PA] Total	**$ 11,542,577.45**	**18.40**	**2.82**	**0.42**

[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, 2019 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 2019 is $5,752,042

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 (ESPI)

Program Year	2013	2014	2015	2016	2017	2018	2019
Forecast*	$5,720,473	$6,081,613	$3,000,000	$3,135,968	$4,500,000	$4,500,000	$4,500,000
Actual**	$5,275,232	$5,063,414	$4,654,855	$6,239,768	$5,167,682	$1,343,051	

* 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 paymentsauthorized 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	E-5007	No AL Required
2017	E-5007	E-5062	E-2951
2018	E-5062	NA	A.17-01-014

Notes:

(1) Forecast ESPI claim source is the EE Budget Forecast filing.

(2) Actual ESPI claim source are resolutions.

(3) Program Year 2014 reduced by ($629,150) as reflected in Resolution E- 4897

(4) As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

APPENDIX B – UPDATED DECEMBER 2019 MONTHLY REPORT

The final SDG&E December 2019 monthly report[10] can be found in the Monthly Reports section of the CPUC's CEDARS website: https://cedars.sound-data.com/.

[10] As of the date of this report SDG&E is unable to finalize savings resulting from its Upstream Lighting Program. SDG&E is in the process of completing its investigation into the operation of the program and will formally report the results of that investigation to the Commission on June 8, 2020, pursuant to the Administrative Law Judge's Email Ruling Requesting Further Comment on 2017 and 2018 Upstream Lighting Programs, issued April 3, 2020. Accordingly, SDG&E has excluded any savings claim for its 2019 Upstream Lighting Program in this report.

APPENDIX C – 2019 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 2019.

Program ID	Program Name	Primary Sector (Market Segment)	Sector (Sub-segment / Type of Customers)	Customer Size (Non-residential Only)	Delivery Channel	Vendor	Length	Contract 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	S/M/L	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	S	Direct Install	Matrix Energy Services Inc	2 Years, 2 Months	
	SW-COM Direct Install	Non-Residential	Commercial	S	Direct Install	Willdan Energy Solutions	2 Years, 2 Months	
	SW-COM Direct Install	Non-Residential	Commercial	S	Direct Install	Staples & Associates	2 Years, 2 Months	
SDGE3230	SW-IND-Customer Services-Audits CIEEP	Non-Residential	Industrial	S/M/L	Downstream	Onsite Energy Corp	8 Years, 3 Months	
SDGE3235	SW-AG-Customer Services-Pump Test Services	Non-Residential	Agricultural	S/M/L	Downstream	Lincus Inc	5 Years, 0 Months	
SDGE3291	SW-IND-Customer Services-Pump Test Services	Non-Residential	Industrial	S/M/L	Downstream			
SDGE3292	SW-Com-Customer Services-Pump Test Services	Non-Residential	Commercial	S/M/L	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	S/M/L	Downstream	Aptim Environmental & Infrastructure	4 Years, 0 Months	
SDGE3322	Streamlined AG Efficiency (SAE)	Non-Residential	Agricultural	S/M/L	Downstream	Cascade Energy Inc.		
SDGE3217	SW-COM-Customer Services- Audits	Non-Residential	Commercial	S/M/L	Downstream	kW Engineering	2 Years, 7 Months	
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	S/M/L	Downstream			
SDGE3217	SW-COM-Customer Services- Audits	Non-Residential	Commercial	S/M/L	Downstream	Willdan Energy Solutions	2 Years, 7 Months	
SDGE3236	SW-AG-Customer Services-Audits	Non-Residential	Agricultural	S/M/L	Downstream			
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	S/M/L	Downstream			
SDGE3236	SW-AG-Customer Services-Audits	Non-Residential	Agricultural	S/M/L	Downstream	Base Energy Inc	2 Years, 7 Months	
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	S/M/L	Downstream			
SDGE3236	SW-AG-Customer Services-Audits	Non-Residential	Agricultural	S/M/L	Downstream	Aptim Environmental & Infrastructure	2 Years, 7 Months	
SDGE3229	SW-IND-Customer Services-Audits	Non-Residential	Industrial	S/M/L	Downstream			
SDGE4061	Facility Assessment Services	Non-Residential	Commercial	S/M/L	Downstream	Power TakeOff	8 months	
	Total							**$ 43,453,395.61**

Note:

Customer size is only applicable to the non-residential sectors.

Definition of Small Business Cusomre accordining to Per D.10-11-037 Footnote 1:

A small business customer is defined as a non-residential customer with an annual electric usage of 40,000 kilowatt hours (kWh) or less, or an energy demand of 20 kilowatt (kW) or less, or annual consumption of 10,000 therms of gas or less. Alternatively, a small business customer is a customer who meets the definition of "micro-business" in California Government Code Section 14837 (Section 14837). Section 14837 defines a micro-business as a business, together with affiliates, that has average annual gross receipts of $3,500,000 or less over the previous three years, or is a manufacturer, as defined in Section 14837 subdivision (c), with 25 or fewer employees. The California Department of General Services is authorized to amend the gross receipt amount. In January 2010 DGS increased the gross receipt amount from $2,750,000 to the current amount of $3,500,000. (see, California Office of Administrative Law, Regulatory Action Number 2000-1110-01S.) This definition does not include fixed usage or unmetered rate schedule customers.

All other nonresidential customers are designated as Medium/Large.

APPENDIX D – 2019 ENERGY EFFICIENCY PROGRAMS

Program ID	Program Name	Date Added	Date Closed
3201	SW-CALS-Energy Advisor-HEES, UAT		
3203	SW-CALS-Plug Load and Appliances-HEER		December 31, 2019
3204	SW-CALS-Plug Load and Appliances-POS Rebates		
3207	SW-CALS-MFEER		
3208	SW-CALS - EUC WHRP - Basic		
3209	SW-CALS - EUC WHRP - Advanced		
3213	SW-CALS - CAHP/ESMH-CA Advanced Homes		December 31, 2019
3214	SW-CALS - CAHP/ESMH-E Star Manufactured Homes		
3215	SW-COM-Strategic Energy Management		
3216	SW-COM-Customer Services-Benchmarking		
3217	SW-COM-Customer Services- Audits NonRes		
3220	SW-COM-Calculated Incentives-Calculated		
3222	SW-COM-Calculated Incentives-Savings by Design		
3223	SW-COM-Deemed Incentives-Commercial Rebates		
3225	SW-COM-Deemed Incentives-HVAC Core		December 31, 2019
3227	SW-IND-Strategic Energy Management		
3228	SW-IND-Customer Services-Benchmarking		
3229	SW-IND-Customer Services-Audits NonRes		
3231	SW-IND-Calculated Incentives-Calculated		
3233	SW-IND-Deemed Incentives		
3234	SW-AG-Customer Services-Benchmarking		
3236	SW-AG-Customer Services-Audits		
3237	SW-AG-Calculated Incentives-Calculated		
3239	SW-AG-Deemed Incentives		
3240	SW-Lighting-Lighting Market Transformation		
3241	SW-Lighting-Lighting Innovation-ETPC MD		
3245	SW-Lighting-Primary Lighting		December 31, 2019
3246	SW-ET-Technology Introduction Support		
3247	SW-ET-Technology Assessment Support		
3248	SW-ET-Technology Deployment Support		
3249	SW C&S - Building Codes & Compliance Advocacy		

Program ID	Program Name	Date Added	Date Closed
3250	SW C&S - Appliance Standards Advocacy		
3251	SW C&S - Compliance Enhancement		
3252	SW C&S - Reach Codes		
3253	SW C&S - Planning Coordination		
3254	SW-WE&T-Centergies		
3255	SW-WE&T-Connections		
3257	SW-WE&T-Strategic Planning		
3260	Local-IDSM-ME&O-Local Marketing (EE)		
3261	Local-IDSM-ME&O-Behavioral Programs (EE)		
3262	SW-FIN-On-Bill Finance		
3282	SW-IDSM-IDSM		
3293	SW-CALS - Residential HVAC-HVAC Core		December 31, 2019
3302	RES Upstream HVAC Incentive Program		December 31, 2019
3303	HVAC To Code Compliance Incentive Program		
3266	LInstP-CA Department of Corrections Partnership		
3267	LInstP-California Community College Partnership		
3268	LInstP-UC/CSU/IOU Partnership		
3269	LInstP-State of California /IOU		
3270	LInstP-University of San Diego Partnership		
3271	LInstP-San Diego County Water Authority Partnership		
3272	LGP- City of Chula Vista Partnership		
3273	LGP- City of San Diego Partnership		
3274	LGP- County of San Diego Partnership		
3275	LGP- Port of San Diego Partnership		
3276	LGP- SANDAG Partnership		
3277	LGP- SEEC Partnership		
3278	LGP- Emerging Cities Partnership		
3206	SW-CALS-Plug Load and Appliances-ARP		
3211	Local-CALS - Middle Income Direct Install (MIDI)		
3212	SW-CALS - Residential HVAC-QI/QM		June 30, 2019
3221	SW-COM-Calculated Incentives-RCx		
3224	SW-COM-Deemed Incentives-HVAC Commercial		December 31, 2019
3226	SW-COM Direct Install		

Program ID	Program Name	Date Added	Date Closed
3230	SW-IND-Customer Services-Audits CIEEP		
3235	SW-AG-Customer Services-Pump Test Services		
3256	SW-WE&T-Connections K-12		
3279	3P-Res-Comprehensive Manufactured-Mobile Home		
3280	3P-IDEEA		
3291	SW-Ind-Customer Services-Pump Test Services		
3292	SW-Com-Customer Services-Pump Test Services		
3311	3P-Energy Advantage Program (EAP)		
3317	HOPPs - Building Retro-Commissioning		
3318	HOPPs - Multi Family		
3322	Streamlined Ag Efficiency (SAE) Program		
4061	Facility Assessment Services		